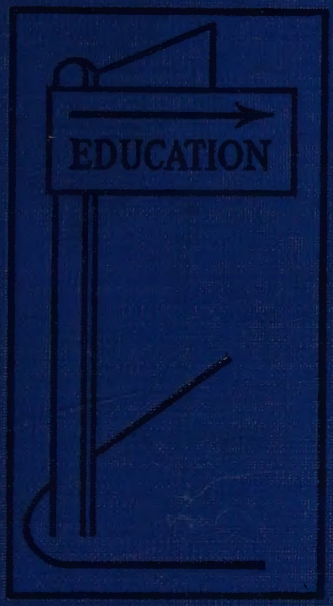
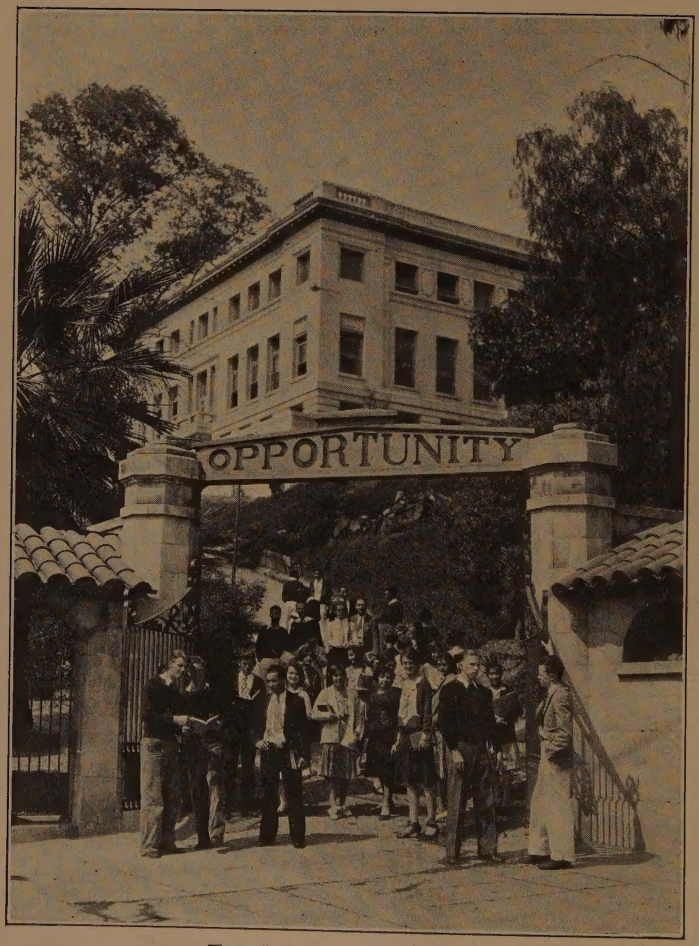
GUIDEPOSTS FOR JUNIOR HIGH SCHOOL



OUR WORLD OF EDUCATION

HOLBROOK AND McGREGOR



THE GATE IS OPEN TO ALL!

Guideposts for Junior High School Years

EDITED BY JAMES M. GLASS

OUR WORLD OF EDUCATION

BY

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PREFACE

THIS book is the final volume of the authors' junior high school Guidepost Series, but it is adapted also to independent use in classes which have not used the other two texts of the series.

First of all, it is a book in which guidance precepts are based on the intimate correlation which exists between the *school of books* and the *school of life*. In keeping with our democracy, it recognizes no deadline for education; it is principled on the fundamental concept that life is a continuous process of education which is open to all who will avail themselves of its teachings.

Naturally, then, the book provides helpful guidance, not only for the pupil who expects to continue his training in the classroom, but also for the student who must go to work at an early age. The training which the latter is to receive in his particular vocation is as much a matter of moment as is the continued academic education of his classmates. In other words, the objectives set before both groups are of equal importance and admit of no social distinctions.

The text covers a study of the educational opportunities in the senior high school, continuation school, trade school, evening school, college, university, and in vocational experience. It emphasizes repeatedly that a wise choice of vocation with its

attendant contribution to good citizenship is the goal of all educational endeavor. The seven cardinal principles of education motivate the organization of each unit of subject matter in the book and are set up as the principal guideposts to be followed by the pupil in living *the good life.*

At the outset, the pupil is directed to a study of his individual vocational aptitudes and interests, so that he may parallel his study of the world of education with one or more individually helpful vocational investigations. By the time he reaches the point in the school year when he is required to indicate his choice of high school electives, his vocational investigations should be so far advanced that his choice of courses will be much less casual than would otherwise be the case. Especial care is taken not to emphasize finality in choice of career, but, nevertheless, an *early* choice is held up as an important step to wise choice, and drifting is discouraged.

The authors hope that teachers will find in these pages the clearly crystallized tenets of guidance instruction so long needed. All of the attractive features of the Guidepost Series have been continued because of their success in the classrooms where the earlier volumes have already been used. The pictures are a most valuable complementary feature and should not be slighted in classroom discussion. They have been selected with the utmost care and their captions and legends contain many a useful hint for amplification of the text.

The "Outline of Occupational Opportunities," in

the Appendix, and the outline, "Checking My Vocational Choice," on page 228, will be items of constant reference. All other supplementary features are the results of careful evaluation and will prove their worth as they are brought into service. Library aids are organized from the extensive bibliographies of the text, and accurate and interesting reports from the pupil should be encouraged.

To none is given a nobler or more satisfying service than that of the guidance teacher. This book was written that that service might be enlarged and made increasingly effective. It is presented with the confident hope of the authors that it will be a most dependable aid to guidance teachers in securing for all pupils the means to a *happy and successful life.*

The authors gratefully acknowledge contributions to this book from various school systems, and also extend thanks to the following authors and publishers for permission to use illustrative excerpts:

Huber William Hurt, compiler and publisher of *The College Blue Book;* Lyman K. Davis, compiler and publisher of *The College Directory;* Amos C. Hoyt, Director of Research, Public Schools of Hartford, Connecticut, compiler of *The College Information Chart;* Elizabeth Frazer and *The Saturday Evening Post* for an excerpt from the article "Wanted, Young Men"; Frederick Hazlitt Brennan and *The Saturday Evening Post* for an excerpt from the story "College Hero"; Alanson H. Edgerton, his investigators, Ruth L. Ross, Grace S. Robinson, Edna E.

Bromley, Helen M. Blue, and Sherman R. Wilson, and The Macmillan Company for vocational outlines on the "Office Machine Operator" and the "Industrial Chemist" from Edgerton: *Vocational Guidance and Counseling.*

H. L. H.
A. L. McG.

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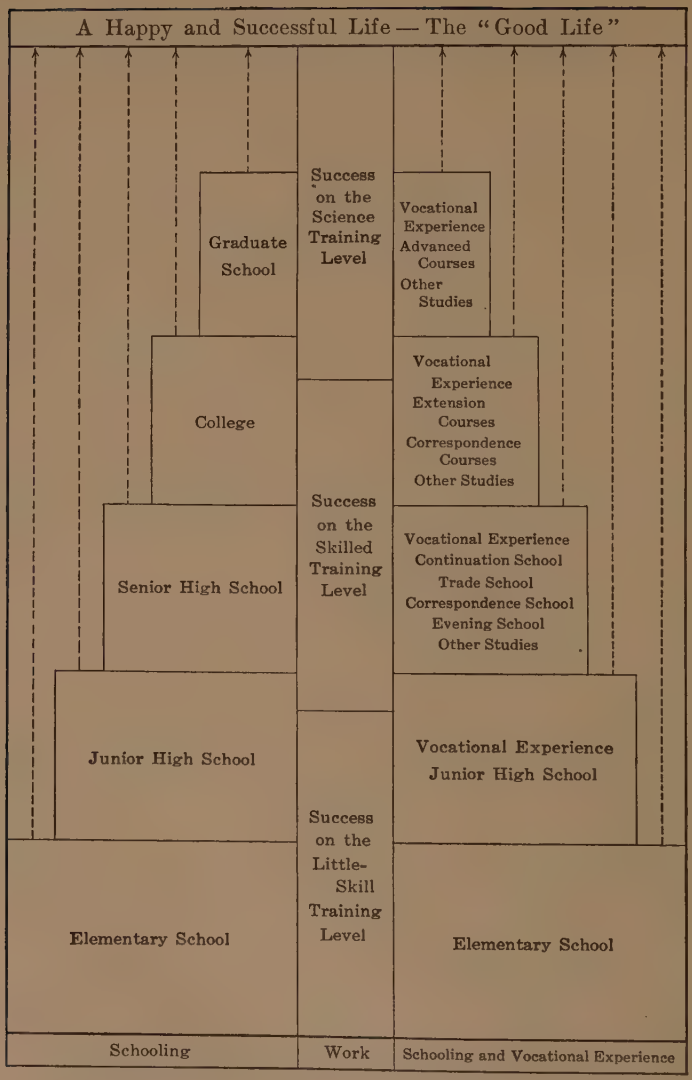
OUR WORLD OF EDUCATION



CLIMBING THE STAIRS OF EDUCATION IN SCHOOL AND VOCATION

OUR WORLD OF EDUCATION

CHAPTER I

THE ROAD AHEAD

Now what shall seem the hill but a moment of surmounting,
The height but a place to dream of something higher!

— WINIFRED WELLES

Those of you who have read *Through the Looking-Glass* may remember how, suddenly, for no reason at all, Alice and the Red Queen began to run. Presently Alice was tired and out of breath, but the Red

"FASTER! FASTER!" SAID THE RED QUEEN

Queen kept urging "Faster! Faster!" and hand in hand they sped along. Then they stopped.

Alice looked about her in great surprise. "Why I do believe we've been under this tree the whole time! Everything's just as it was!"

"Of course it is!" said the Queen. "What would you have it?"

"Well, in our country," said Alice, "you'd generally get to somewhere else, if you ran very fast for a long time as we've been doing."

"A slow sort of country!" said the Queen. "Now *here*, you can see, it takes all the running you can do to keep in the same place."

GOOD CITIZENSHIP

What has good citizenship to do with your future?

Our country is not like the Looking-Glass Country, — running or walking, we get somewhere. However, successful people avoid aimless effort and loss of time by choosing a definite goal, and then planning the best route for reaching it. This school year is a good time to choose a goal for your future, and to develop a plan of progress for reaching it.

Our Guidance Study Hour — Class Work

Your Goal — A Happy and Successful Life. — At present, looking ahead probably means going through high school or planning for a job. Educational and vocational plans are important and will be considered in detail in later chapters of this book, but your planning in both these fields will be more successful if certain important purposes are kept in mind.

Ethical Character

A guidepost to right living.

Some years ago a committee of educators met to reorganize secondary school work. To make sure that they were all aiming toward the same goal they asked themselves: "What is education for?" "What is its purpose?" They all agreed that the aim of education is to live the "good life." The committee then asked themselves: "What makes up the 'good life' to-day?" They came to the conclusion that the "good life," that is, a happy and successful life, is made up of seven elements:

1. Health
2. Command of fundamental subjects
3. Ethical character
4. Worthy home membership
5. Acceptance of civic responsibility
6. Vocational fitness
7. Worthy use of leisure

Each of these elements is necessary to the "good life." In other words, they are guideposts on the road to right living. A plan which would include them all might be diagramed this way:

I plan to be a person:

Physically strong Intellectually trained Morally sound	maintaining right relationships with	my family and my community	and seeking worthwhile	work and play.

There could not be a better plan for a happy and successful life. Fortunately America offers us abundant opportunities to attain each of the seven objectives.

A Backward Glance. — Before we decide what we are going to do in the future it is always well to review our past experience. This will be a good time to take part in the following class discussion:

Discussion Problem 1. Review your school experience from kindergarten through to the present to see how it has contributed to the seven objectives of education.

A Part of the Road Ahead

A good playground helps us to have healthy bodies. Does it help us to be good sports? Why is it part of the "Road Ahead"?

On the Right Road

Gaining command of the fundamental subjects.

AN OUT-OF-DOOR ART CLASS
What has art to do with a happy life?

Courtesy of Children's Museum, Boston

A "BIRDWALK"
An interesting use of leisure time.

Perhaps you would like to read the report of one class on this discussion. Here it is as the class secretary finally wrote it out; try to have your class make a better one:

Health — We have had games and exercises in school, and milk in the middle of the morning, if we wanted it. A doctor and a

"We Have Had Games in School." Why?

nurse came to the school and helped special pupils to be more healthy.

Command of Fundamentals — We have learned to read and write and to do arithmetic in the elementary school. We have learned to write letters and read newspapers and do other fundamental things.

Ethical Character — We have had stories about great people and some fine talks from the principal. We've had to do right things. We have helped poor people at Thanksgiving.

Worthy Home Membership — We don't think we have done much with this although we have had talks about being polite at home.

Acceptance of Civic Responsibility — In the elementary school we had an athletic club where we elected officers. Electing good ones was a responsibility. Here we have had a student

ARBOR DAY EXERCISES

Planting trees and protecting our forests is a civic responsibility.

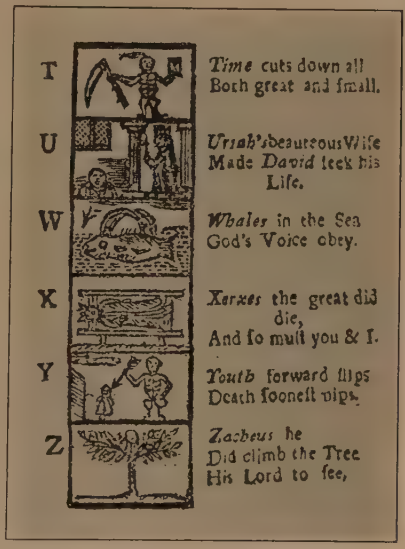
government. Sometimes we have had lessons where one pupil was a leader.

Vocational Fitness — Our guidance class has taught us something about vocations and we have had a little shop. We think we haven't gone far with this objective.

Worthy Use of Leisure — We have learned some games that we like and we have been taught to swim. The school isn't the only place where these are taught. Some of us went to the Y. M. C. A. The school has taught us about good books to read

and some of us have had instruction on musical instruments which means a good use of leisure. We also have had good fun with Hallowe'en parties and Christmas parties.

To-day's Opportunities. — Right planning means finding out what opportunities life offers and how we can best use them. Every progressive community does much to further the welfare of its people, but it rests with you to take advantage of what your city, town, or village offers. It is a good plan to know the helps to a well-rounded life which are present in your community. Then you will be able to see how these can be used in planning the good life.



THE NEW ENGLAND PRIMER

Does this seem as interesting as a page from our own first readers?

Sometimes we become more conscious of the possibilities of the present by contrasting it with the past. You will be interested in reading the story of *Grandmother Brown's Hundred Years* by Harriet Conner Brown. Grandmother Brown lived a good life. Out of whatever circumstances surrounded her she

seemed to draw all that was fine. When we think of what men and women were able to make of themselves in spite of the rigors and hardships of the pioneer life, we become more eager to take advantage of the opportunities which our life offers us. If we were to examine Grandmother Brown's early life in the light of the seven objectives, we should have an outline like the following:

Health — A country life with fresh air and exercise. Medical service in time of illness was limited. Both the doctors Grandmother Brown mentions were ignorant and consequently dangerous. Grandmother Brown spent a part of her life as an invalid, probably because of overwork and poor care in times of illness.

Command of Fundamental Subjects — Grandmother Foster's school, the first one attended by Grandmother Brown, taught reading, writing, spelling, sewing, knitting, and manners. Mr. Parsons' school offered a few advanced studies, but Grandmother Brown was not allowed to attend long. Distance, the need of her help at home, and possibly the cost of tuition prevented.

Ethical Character — Grandmother Brown had the fine example of her generous, just, and kindly father to guide her. She had the direct teaching of both her parents and the inspiration of her church.

Worthy Home Membership — Grandmother Brown's girlhood home seems to have been a place where everybody in the family helped. The children tried to relieve the mother, and were very fond of one another. Trouble came when one member, the stepfather, failed to be a worthy member of the home. In her married life Grandmother Brown seems to have been a happy, helpful influence in her large family.

Civic Responsibility — Grandmother Brown's family played its part in the great civic movements of the day. Her people joined the "Washingtonians," a temperance society, and lived

HOME MEMBERSHIP IN GRANDMOTHER BROWN'S DAY

in accordance with its ideals. Later they took part in the movement for the abolition of slavery.

Vocational Fitness — The women of Grandmother Brown's time were expected to be good housekeepers; the men, good farmers. Grandmother Brown learned to cook meals, can and dry fruit, spin, weave, sew, scrub, care for children, and do home nursing. She had a talent for drawing, but this she was not allowed to develop.

Worthy Use of Leisure — Grandmother Brown liked to dance, to sing, and to have picnics. She read the books borrowed from a Sunday-school library, the family newspaper, and a few bound copies of magazines which had come to her as a gift.

If Grandmother Brown were living to-day, many opportunities would be present in her community that did not exist in the old days, and some that she had then would be lacking now. See if you can point out the differences when you discuss the following problem:

> **Discussion Problem 2.** What activities or opportunities in community life to-day may help you to attain each of the seven objectives?

A Glance Ahead. — Your discussion of problem 2 has shown you that your community can help you in a number of ways to attain the seven objectives of the good life. If circumstances permit you to follow the path of school education, you will map out definitely your high school and college career. If, from necessity or choice, you plan to enter the world of work soon, just as careful planning is neces-

sary, if life is to be full and satisfying. Whichever way you decide to go, you may be sure that both paths finally join in self-respecting and respected citizenship.

Your Vocation. — Whatever your future educational opportunities may be, you will win real success in life only as you find the right occupation for yourself, and do honest work in that occupation. Therefore as you make this study of our world of education, you are asked also to keep constantly in mind your future as a worker. Whether you have made a survey of our world of work or not, you should now undertake as a companion study to this course a careful investigation of some occupations in which you are specially interested. Among the Guidance Scrapbook suggestions for each chapter, you will find one concerning your occupational study. Do not neglect this interest!

Ewing Galloway

A School Garden in the City

This boy is learning how to transplant vegetables in one of the city schools. He may be discovering his future vocation.

Your Guidance Scrapbook — Personal Work:

Your guidance class must be more than a reading and discussion class. It ought to mean much thinking and some work of your very own. A *scrapbook* provides an excellent way to record these personal thoughts, feelings, and special interests. Your teacher will tell you what kind of notebook to use for this purpose.

Before making any entries in your scrapbook reserve the last third of it for your individual study of an occupation or occupations. Print a title page for this reserved section with the caption, MY STUDY OF VOCATIONS.

The first thing to do as each chapter is completed is to make a copy of the *guidepost* on the opposite page and fill out the guidepost sign.

The second thing to do is to summarize the thoughts of the chapter as directed under the heading *Chapter Information.* The *Interesting Readings* are for leisure hours or for library hours. Keep a scrapbook record of your readings.

Then, turn to the section reserved for *My Study of Vocations* and bring its discussion down to date.

The *Scrapbook Suggestions* will help you to make your scrapbook more interesting by applying your guidance study to everyday affairs.

YOUR GUIDEPOST

When you copy this guidepost in your scrapbook, fill the sign space with a direction pointing the way to happiness and success.

My Guidance Scrapbook — Personal Work

Chapter i is introductory and there is comparatively little individual work to do in connection with it, but this is a good time to get your scrapbook started.

1. *My Guidepost*

   The guidepost sign should state, in a very few words, just what the chapter means to you. This act of selecting from each chapter its main thought has several purposes. First, it helps you to set up another guidepost to the goal which you wish to reach. Second, it shows whether or not you have got the right ideas from the chapter. Finally, it gives you useful practice in learning to say things briefly but forcefully. There is one very clear guidepost sign for this chapter. See if you can find it. It stands as the goal of your striving, the purpose of your planning.

2. *Chapter Information*

   Make a chart like the one suggested below. Fill in the seven objectives of education and after each write two or three ways in which your community offers training for its attainment. (Health is filled in as an illustration.)

Objective	Community Opportunities
1. Health	Public playgrounds — physical training Well-prepared and selected school lunches
2. etc.	

3. *Interesting Readings*

   Mullett, *Dowling Wouldn't Give Up* in Theisen and Leonard's *Real Life Stories*, book viii

   Brown, *Grandmother Brown's Hundred Years*

4. *My Study of Vocations* (Do not forget that you are to reserve a special section of your scrapbook for this study.)

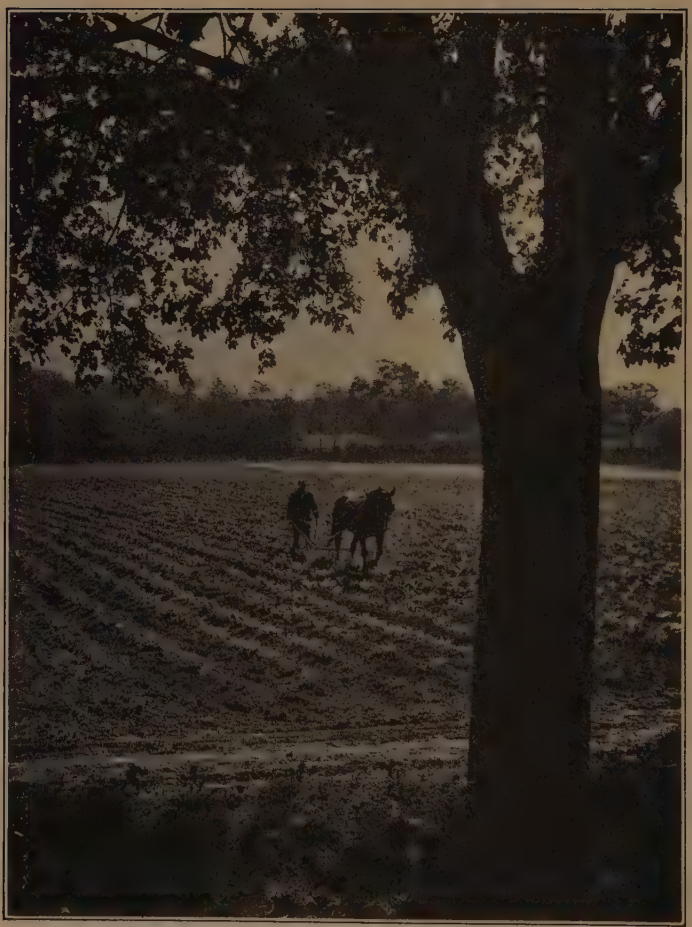
One of your major tasks for the year is to make a careful and complete study of occupations which you have chosen because of their interest to you. Each chapter in this book will be of value to you in making this study a thorough one. When the book is done, your completed project will be a full investigation of an occupation which, perhaps, you will follow as your vocation. It is of vital importance that you inform yourself about work and that you realize the value of such definite knowledge before the need of taking a job arises.

Imagine that you are to become a worker to-day. From your knowledge of the five vocational fields listed on page 19, make your first, second, and third choices of an occupation and tell your reasons for choosing them. For further guidance in studying these occupations, turn to the outline study in the appendix. Cut out pictures, clippings, and printed details to illustrate your choices. In what way has your schooling so far been a help?

5. *Scrapbook Suggestions*

(1) Paste in your scrapbook the picture of a living American and write a paragraph about him explaining how his life illustrates the seven objectives.

(2) Take one issue of your daily paper and clip from it everything that relates to health, to schooling, to character, to worthy home life, to civic responsibilities, to vocational fitness, and to the worthy use of leisure. You will be astonished at how much you will find in a single newspaper that indicates the presence of these objectives in our American standard of living.



Ewing Galloway

"The Lord of Earth, the Hero of the Plough."

— HOLMES

"From toil he wins his spirit light,
From busy day the peaceful night;
Rich, from the very want of wealth,
In heaven's best treasures, peace and health."

— T. GRAY

CHAPTER II

EDUCATION AND THE WORLD'S WORK

Happy, thrice happy, every one
Who sees his labor well begun
And not perplexed and multiplied
By idly waiting for time and tide.

—LONGFELLOW

In the following chapters much will be said about ways of getting an education and of experiencing the good life. This chapter is directly concerned with the relation between education and vocation.

OUR GUIDANCE STUDY HOUR — CLASS WORK

Vocational Fields and Training Levels. — If you have studied *Our World of Work*, Book II of this series, you will recall the following outline of the five great vocational fields:

Agriculture
  Plant husbandry
  Animal husbandry
Business
  Buying and selling
  Office work
  Ownership and management
Industry
  Mining
  Manufacturing
  Building
  Public utilities

Home Making
  Family home making
  Institutional home making
Professions
  The Arts
  Personal professions
  Political professions

Ewing Galloway

ANIMAL HUSBANDRY

Science plays an important part in successful chicken raising, just as in all other forms of farming. Education pays!

It was also pointed out to you that in the various vocational fields there are three training levels:

1. *The little-skill level.* — This requires no training other than that which can be obtained upon the job.

2. *The skilled level.* — This requires at least one year of special training and a great deal of actual practice.

3. *The science level.* — This requires specialized study beyond the high school, plus vocational experience, that is, experience gained in the actual work of the vocation.

The diagram facing page 1 shows in a general way the relationship between school training or part-time schooling and the occupational levels. There will be some exceptions to the relationship here pictured because some people seem to be able to carve out for themselves astonishing careers without school education. However, for most people school training is the chief stairway leading to higher levels.

Elementary Training and the Little-Skill Level. — You will see from the diagram that boys and girls having only an elementary education must start work at the little-skill level. They will do housework, do farm chores, perform simple operations in factories, bundle goods or work in the stock room of drygoods stores, tend the counter in grocery stores, run errands, answer the telephone in large offices, and so forth. As they grow older they may find, particularly in the case of farm and factory workers, that a fair livelihood is possible under modern hygienic conditions, and so they will settle down to earn their living at the little-skill level. They have attained *skill*, although not of the kind that is required for the next level.

On the other hand, some workers in this group, by extra training in continuation, trade, and evening schools or by the training that comes from learning on the job, will move into the skilled level of their own or an allied occupation. They can rarely attain the science training level, however, without devoting some adult years to specialized study.

High School Training and the Skilled Level. — The boy or girl with high school training, although he may not enter directly into the skilled level of occupation, may start at the beginning and work upward by adding experience to the knowledge

THEATER USHERS

It is possible to reach the skilled training level by starting at the little-skill level. Schools are maintained for these boys to train them for managerial positions.

gained in school. Such working upward will be fairly steady and rapid because the worker has already obtained some special training through school electives and needs only to learn the inside details of the job. The salesman, the stenographer, the skilled home maker, the progressive farmer, and the foreman are eventually recruited from this group. Some

THE BANK MESSENGER

These boys at the little-skill training level can win promotion to the skilled training level of tellers.

THE TELLERS' CAGES IN A BANK

of these workers, through natural ability, profitable experience, and the seizing of every educational opportunity, will attain the science level in the fields of agriculture, industry, home making, and business, but in general the boy or girl with a high school education will earn his or her living on the skilled level.

Ewing Galloway

NEWS ROOM OF A CITY NEWSPAPER

What school subjects would help you prepare for this kind of work?

College Training and the Science Level. — The college graduate, if electives have been wisely chosen, may enter a vocation at the science level. If he enters at the skilled level, with added experience, he usually proceeds rapidly to the science level. In the case of the learned professions, however — medicine, law, certain branches of teaching, and the ministry — specialized study beyond the college years will be required.

Ewing Galloway

"Special Service" Workers in a Department Store

This work requires professional skill.

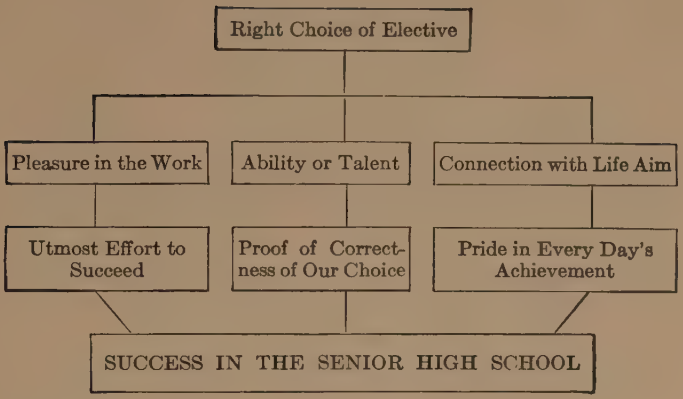
Ewing Galloway

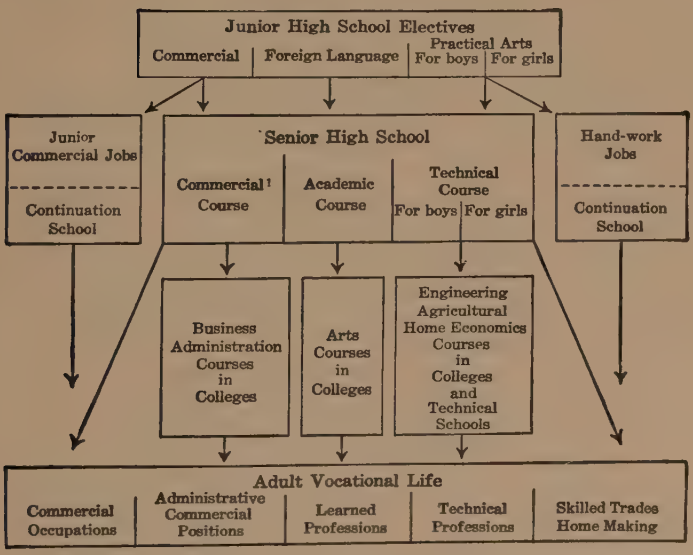
Modern Office Work

High school training will help fit you for work of this type.

Occasionally it happens that a college student who must go to work immediately upon his graduation finds himself confronted with the necessity of taking a little-skill job, and after the rather heavy expense of his college education this is disappointing. Such a situation results, in the main, from **poor choice of electives**. The student has perhaps chosen subjects interesting and worth while in themselves but not fitting him for any service for which the world is willing to pay. Usually he works up rapidly because of his power to study and his background of general knowledge, but the difficulty might have been avoided had he carried one or two vocational subjects during his college years or faced the necessity of further training beyond college. As a general rule the college graduate eventually earns his living on the science level.

The Good Life on Every Training Level. — When we speak of vocational training levels, we are thinking in terms of training requirements. We ought not to think of the workers at one training level as looking down upon those at another. The seven objectives which make the good life — health, command of fundamentals, ethical character, worthy home membership, civic responsibility, vocational fitness, and worthy use of leisure — are possible to attain at all vocational levels. We are especially considering in these paragraphs the sixth objective, vocational fitness. If the worker finds satisfaction in his job, realizes that he is doing good work, and


Right Choice of Elective
Pleasure in the Work
Ability or Talent
Connection with Life Aim
Utmost Effort to Succeed
Proof of Correctness of Our Choice
Pride in Every Day's Achievement
SUCCESS IN THE SENIOR HIGH SCHOOL



[1] Pupils going on to a college business course from this course must be careful to select the required college preparatory subjects.

Foreign Language Electives		*Learned Professions* Medicine Law Ministry Teaching Library Work Social Work and others
Commercial Electives		*Business Occupations* Bookkeeping Stenography Salesmanship Business Administration Telephone Service Department Store Service Statistical Service and others
Practical Arts Electives	Sciences	*Technical Professions* (Boys) Engineering Agriculture Chemistry Architecture and others (Girls) Nursing Dietetics Child Care and others
	Trades	*Industrial Occupations* (Boys) Machine Trade Pattern Making Sheet-Metal Work Auto Mechanics Printing Electricity and others (Girls) Dressmaking Millinery and others

can earn enough to support himself and his family, he commands both self-respect and the respect of others.

In addition, the modern world has learned that vocations are interrelated. Every great industrial plant offers employment to little-skill workers, skilled workers, and science workers, at the same time. Should the workers at any training level fail, the structure of the industry falls, and all are thrown out of work. Men and women have come to realize that one vocation is dependent upon another and that all who are earning an honest living, whatever their occupational training levels, must be partners in friendliness and coöperation.

Discussion Problem 19. Study any industrial or mercantile plant in your city or town to show how workers at each occupational level find employment within it.

A Vocational Purpose. — A vocational purpose is helpful to a well-rounded education. When a student knows in what occupational field he wants to work, he is able to plan his electives wisely, and thus can acquire not only the general background offered by the constant subjects of his school program but also the vocational value of well-chosen electives. The charts on pages 27 and 28 show some of the vocational possibilities of school electives. Looking forward to a vocation is a genuine motive for earnest application and sound preparation, so

that the student who knows where he is going, is likely to be a better student than the one who is drifting through school merely to get a diploma.

Acquiring a vocational purpose demands study of two kinds: (1) a study of vocations, to understand

Ewing Galloway

TELEPHONE SALES SERVICE IN A DEPARTMENT STORE

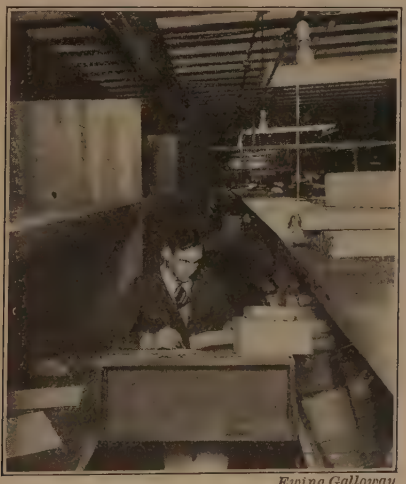
Tell what sort of training this girl needs. What type of girl is needed for this job?

in detail some typical ones and at the same time to learn how to study others by yourself; and (2) a study of your own possibilities and how to use them as a basis of choice. The rest of this chapter considers the study of vocations; chapter vii discusses personal factors which enter into a choice of vocation.

Ewing Galloway

PARCEL ROOM IN A LARGE DEPARTMENT STORE

An "unseen" worker on whom we depend. Many other workers besides the salespeople make possible the service of our big "city" stores.



Ewing Galloway

CHECKING SHIPMENTS

This is another view of parcel service in a large department store. On what training level does this young man work? What education does he need in order to do his work?

The Study of Vocations. — At this point divide your class into five committees, each to represent one of the five vocational fields listed on page 19 and each to present a report in detail of at least one occupation within that field. If there is time for more than one report in each field, committees might change fields of study after the first report has been given. The purpose of the committee work is not to give you a general idea of each vocational field. This you can get by reading *Our World of Work*, Book II of this series. Instead of general description, each committee is to take an actual vocation in the field assigned, and by presenting a report in full, give not only the study of the occupation chosen, but the details of **how** the study was conducted. Perhaps the vocation chosen will be the one which you are investigating; if so, you can contribute much valuable information for the benefit of the class.

Steps in Preparing Committee Reports. — (1) *Choosing the Vocation to Be Studied.* — As soon as the five vocational fields have been assigned to the five committees, each committee should meet, elect its chairman, and proceed to choose the occupation it means to study, having proper regard for the training levels. This will require some examination of the whole field first. A re-reading of the appropriate part of *Our World of Work* will be helpful if the book is available; if not, consult books on occupations in the library and get a list of the occupations that may properly be classed in your field.

Courtesy of Carnegie Institute of Technology

A Physics Laboratory, College of Engineering

Ewing Galloway

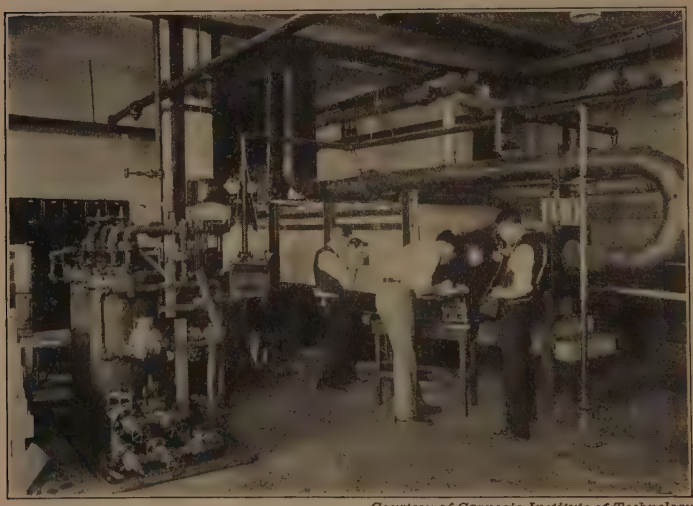
A Chemist Testing Water Supplies

A college training, with a vocational purpose, is the goal of the students who study physics or chemistry.

Courtesy of Carnegie Institute of Technology

A Metallurgical Laboratory

Do you know what "metallurgical" means? If not, look it up in your dictionary. What Senior High School electives are related to this work?



Courtesy of Carnegie Institute of Technology

Heat Laboratory, College of Engineering

This laboratory prepares for work on what level?

Then from the list choose one occupation that is particularly important. One way to decide whether or not it is important is to discover from an occupational survey of the United States Census (consult

TYPICAL INFORMATION OBTAINED FROM THE UNITED STATES CENSUS (1920)

NUMBERS OF WORKERS EMPLOYED IN CERTAIN OCCUPATIONS

Number in the Country
Number in a Given City

(Similar information can be obtained for many other occupations than those here listed.)

	MEN	WOMEN	NO. IN U. S.	NO. IN ROCHESTER, N. Y.
Mechanical and Industrial Trades				
Automobile factories (laborers in)	80,874	2,467	83,341	352
Carpenters	887,208	171	887,379	2,560
Compositors, linotypers, and typesetters	128,859	171	140,165	780
Filers, grinders, buffers, and polishers	57,315	2,470	59,785	
Machinists, millwrights, and toolmakers	894,654	8	894,662	1,474
Metal molders, founders, and casters	123,668	13	123,681	
Pattern and model makers	27,663	57	27,720	211
Plumbers and gas and steam fitters	206,715	3	206,718	971
Upholsterers	27,338	2,267	29,605	179
Professions				
Dentists	54,323	1,829	56,152	225
Librarians	1,795	13,502	15,297	No record
Physicians and surgeons	137,758	7,219	144,977	423
Telephone operators	11,781	178,379	190,160	679

Courtesy of Carnegie Institute of Technology

MONOTYPE COMPOSITION ROOM, DEPARTMENT OF PRINTING

Courtesy of Carnegie Institute of Technology

PRESS ROOM, DEPARTMENT OF PRINTING

your public library) what percentage of all workers find employment in this occupation. The chart on page 35 is taken from the census survey and will show you the kind of information you can obtain. If you live in a city, the classified directory in your telephone book or the publications of your local chamber of commerce will show you how important the occupation is in your own community. *The World Almanac* is another source of accurate information.

(2) *An Outline for the Study of an Occupation.* — After the kind of work has been chosen, the next step is to adopt an organizing outline. This will help you to gather specific facts, and to present the final report in well-arranged form. The following outlines are illustrative.

THE OFFICE MESSENGER

(Analysis of an occupation on the little-skill training level. The positions are filled, according to the work to be done and location, by girls, boys, or men, ages, 14–70.)

A. What the Worker Does	
(1) Duties of the position.	Goes to post office for "foreign" mail. Assists in distribution in "inside" (office) post office or mailing room. Makes rounds of offices or desks, or both, to distribute the incoming and to collect the outgoing mail. Helps fold outgoing letters and place in envelopes, seal and stamp by hand or machine. Carries messages to the various departments of his own organization and to other establishments.

THE OFFICE MESSENGER — *Continued*

(2) Hand and machine processes and physical work.	Hand work: Picking up and depositing mail, sorting, folding, etc., in mailing room, about one-third time. (Varies.)
(*a*) Hand and machine processes. Proportion of time to each.	Machine work: None, excepting when sealing and stamping machines are used.
(*b*) Predominating postures.	Body upright, in walking, person seated or standing in mailing room (usually optional). Seated or standing according to preference during waiting periods.
(*c*) Movements of the whole body, arms, hands, fingers, and lower limbs, and approximate amount of time devoted to each.	All-round movements of whole body, arms, fingers, and lower limbs. Usually more than half the time walking or standing, and about half using hands and fingers.
Positions and movements requiring unusual strength or endurance, and length of time sustained.	In some places messengers are on their feet nearly all the time. This is a point to be looked into by a girl considering such an occupation.
(3) Mental work.	
(*a*) Mathematical and other computations.	Few and simple.
(*b*) Work requiring combination of technical knowledge in mathematics and science and hand and machine skill.	None.
Instruction of others, supervising and administrative duties.	None, with possible exception of showing route to a new messenger.

THE OFFICE MESSENGER — *Continued*

B. What the Occupation Offers the Worker	
(1) Favorable working conditions and stability in employment or the reverse.	Conditions are good and employment is stable.
(*a*) Safety and Health	Excellent.
Machines, acids, gases and ventilation, heat, light, dust, hot metals, collision; other dangers.	No exposure to such dangers.
Medical and surgical facilities and first aid.	Usually available in the plant.
Hours conducive to right eating and sleeping habits.	Yes. Usually seven or eight hours a day, during the day, with one hour at noon, for lunch. Half day Saturday, customary.
Locality healthful — free from excess particles in the air, dampness, impure water supply, animal or other decomposition.	Yes.
(*b*) Social surroundings.	
Welfare activities — athletics, clubs, library, restaurant, shop benefit, and other associations.	In some establishments, particularly mercantile.
Personal contacts with people having high ideals and right character.	Opportunity for such contacts one of the strong features of the position.

THE OFFICE MESSENGER — *Continued*

(*c*) Financial return.	Boy or girl, six to twelve dollars a week, occasionally less or more. Man, fifteen to twenty-two dollars a week, occasionally less or more. Yearly income usually can be computed on this basis, if worker is satisfactory.
(*d*) Participation in the management.	None.
(*e*) Regularity of employment — freedom from seasonal, periodic, or other periods of inactivity.	Employment usually very steady.
(*f*) Work during the daytime — or night shifts.	Daytime.
(*g*) The occupation growing in importance and in number of workers employed, or the reverse.	Occupation growing. Occupations to which promotion leads growing in importance and number of workers, as follows: 1910 census: 97,169 office boys and girls 1920 census: 106,049 office boys and girls Higher office positions — clerical 1910 census: 1,737,053 men and women 1920 census: 3,126,541 men and women Growing for both men and women, with greater growth for women (latter more than doubled in ten years).
(*h*) Are more workers being attracted to the field than it can properly absorb?	More applicants than positions, in many places.

THE OFFICE MESSENGER — *Continued*

(2) Promotion.	
(*a*) Opportunities for training for higher positions through work done.	Yes, provided persistent evening and other study is carried on.
(*b*) Selection for promotion, how made. Qualities in technical skill and knowledge? Personal qualities otherwise? Possession of capital, favoritism, or family relationships?	Usually depends upon character, ability, and personality of the worker, and interest in the work.
(*c*) Lines of Promotion. Vertical (dependent on promotion or removal of person next higher) or Oblique (not dependent as above).	Promotion oblique. Office messenger makes personal contacts in various departments. Has choice of several lines of promotion, depending upon the place, and his own abilities and effort. A worker may often transfer to a sales, factory, or works department, or some other. As an office messenger he often has opportunity to find out about these other department positions higher up.
(*d*) Positions in these lines of promotion, in their order upward.	The following indicate the main lines and most common positions to be found in a large office: Office manager Private Secretary Stenographer Typist Office messenger Chief filing clerk Filing clerks Junior filing clerk Office messenger

THE OFFICE MESSENGER — *Continued*

	Auditor Accountant Head bookkeeper Bookkeeper Clerk — (entry, billing, or others) Office messenger
(*e*) Range of occupational contacts, opportunity for observing other work in process, meeting workers in same or other lines, meeting administrators who may become interested in what workers are trying to accomplish.	Excellent. One of strongest features of this position.
(*f*) History of positions investigated, as indicated by the following: Time position was held by consecutive workers at a given machine, bench, or table. Reason for leaving. Positions subsequently filled by these workers.	Position No. 1 Office established in 1923. Uses two office messenger girls, one at a time only during first four years. Will begin to use three shortly. General office for a brass products manufacturing company. Eight office messenger girls have been employed. One died while in the employ of the company. Two left within two years to work elsewhere, one to work in a relative's store, the other not located. Two became stenographers after four and five years, one of these at home, married.

THE OFFICE MESSENGER — *Continued*

	One became a typist after three years, is married, but still employed. Two are still office messengers. Position No. 2 State government office. Records checked back to 1921. Has employed one office messenger at a time, since that date. Three men employed during that time. One started at eighteen. No studying and no previous education above eighth grade. After four years, quit to work for a railroad express company, then in two years tried some kind of canvassing position. Is now an assistant manager in a five- and ten-cent store. Good habits, hard worker, and will eventually make a fair living, perhaps better than that. One, forty years old, left in three years to work as a waiter in a large, fashionable restaurant. Still there. One, thirty years old, still employed.
(3) Opportunities afforded for home life, recreation, cultural growth, and participation in community activities.	
(*a*) Can the worker be at home with his family each evening?	Yes.
(*b*) Is employment required on Sunday?	No.
(*c*) Is there a vacation period?	Two weeks each summer, with pay, a common arrangement.

THE OFFICE MESSENGER — *Continued*

(*d*) Can the worker live near enough to his work so that he may have two meals a day with his family?	Yes.
Does the worker have to live so close to his work that he cannot get away from it?	No.
(*e*) Can the worker be where there are good library facilities, day and evening schools, where he can attend good lectures and worth-while productions in music and drama?	Usually.
(*f*) Does the employment permit the worker to take an active part in church and community life?	Yes.
C. What the Occupation Requires from the Worker	
(1) Personal characteristics.	
(*a*) General Intelligence	To hold the position, average intelligence is required.
Memory for things seen, heard, and touched.	Needed.
Understanding of directions given by others, verbally or in writing.	Needed.
Ability to distinguish between colors.	Not required.

THE OFFICE MESSENGER — *Continued*

Mathematical reasoning.	Not required.
Analysis of conditions, seeking cause and effect.	Not required.
Ability to meet new situations.	A certain amount needed.
Originality, initiative, and resourcefulness.	Originality, initiative, and resourcefulness are not usually so much required in this position, but assist materially in obtaining promotion. Also they are required abilities in the higher planning and managerial positions.
(*b*) Habits in work.	
Industry, thoroughness, and dependableness.	
Accuracy, neatness, and expeditiousness in work done.	
Courtesy, pleasing countenance, neatness of dress, erect carriage.	All of these are needed, to be reasonably sure of advancement.
Tact and poise, both in meeting people, and working with them.	
Correct speech and letter writing.	
(*c*) Physical characteristics.	No special physical qualities required for office messenger. One who has heart trouble would be unwise to consider this position.
Height, weight, physical strength and endurance including that for eye strain; excellent hearing. Agility and quickness in body action, hands, fingers, feet.	

THE OFFICE MESSENGER — *Continued*

(2) Education and Training.	
(*a*) Sixth grade education.	This is sufficient to hold position.
(*b*) Completion of junior high school.	This makes a better start.
(*c*) Completion of senior high school.	Almost a guarantee of rapid advancement.
(*d*) College or professional school education.	Unusual to enter on this training level.
(*e*) Training in special subjects that may be obtained in special classes, like mechanical drawing and trade mathematics, or in home reading.	Not required but provides a basis for promotion to important positions.
(*f*) Training that is readily obtained on the job — in hand skill, machine operation, in general and technical knowledge.	General information about the work of different departments can to a certain extent be acquired. Some offices also give opportunity, during spare time, for practice on the typewriter and other office machines, and for work on commercial studies.
(3) Conditions making for promotion after position has been obtained.	Developing personal qualities (already listed) and the right friends.
	Training for higher positions in and out of office hours.
(*a*) Educational	
Courses in evening school: high school, collegiate, and professional.	Business courses, according to the line of promotion desired, including English and with it as much carefully selected general reading as possible.
Correspondence school and books, periodicals, and trade magazines for evening study.	Yes, particularly if a good evening school is not available.

THE OFFICE MESSENGER — *Continued*

(*b*) Conditions on the job. Work, not required, that will bring greatest promotion dividends, and personal qualities that will help most.	Close attention to details. Interest in doing more and better work than is required. Unobtrusive study of the work of people in lines of promotion of most interest. Alertness, accuracy, dependability. Coöperation and right character are basic.
D. Summary as to Service Rendered, and Personal Application of Occupational Study to Pupil. (1) Does the worker perform a useful service, one that is essential to the well-being of people, and to the progress of our times?	Yes.
(2) Is this occupation one I should like to follow as a vocation?	In my case yes, until I can prepare for a higher position.
(3) Points I like about the occupation and points I dislike, and why.	This is a business start. I always did want to go into business, though I had expected to go on in school at least to senior high school graduation, until father died, last year. Mother says we are going to stick it out until junior high graduation. I like the chance the office messenger has of seeing various kinds of work, and meeting and talking with people. I could learn a lot from that. Going to work so soon, though, will make mighty slow going. There are enough jobs

THE OFFICE MESSENGER — *Continued*

	higher up — they all are — but I may have to compete even for the next higher position with some one just as bright as I am, who has had three day-school years of senior high school commercial course. Let me think — equal to how many hours of night school?
(4) Does the work done call for all the mental ability, education, training, experience, and desirable personal characteristics I possess? What ability do I have that is not required? In what way am I lacking?	It does. I am doing well in my academic studies, especially English and mathematics, and my school guidance teacher and counselor say that this is certainly a good field for me. I play the piano for our own school orchestra, and I do like to roam through the woods with the right pals, and camp out. I guess though these can help in leisure hours, even if you don't do them in an office. Is camping out an "ability"? Well, taking things as they come and making the best of them, and woods craft — I guess that's ability, too.
(5) What preparation that I lack, in school training and experience, would help me most in getting into the position and succeeding in it?	This is a start on the little-skill training level, and no special training is required, either to enter or to hold the position. I have changed to the commercial electives this year, and will get a little start that way. The accounting side of business and the study needed for that interests me most now. I think it will later, too.

STUDY OF AN OCCUPATION ON THE SKILLED LEVEL

Occupation	Office Machine Operator
1. Nature of Work.	Operates calculating machines, adding machines, bookkeeping machines, mimeograph, multigraph, and billing machines, stenotype, dictaphone, comptometer, Elliott-Fisher addressograph, etc.
2. Main Advantages and Disadvantages.	
(*a*) Factors that interest and develop the worker.	Interest in results, mechanism, speed, mental alertness, stimulates growth. Unusually satisfactory working conditions.
(*b*) Factors that cause physical or nervous strain.	None, if reasonable demands are made upon operators. Excessive demands for accuracy and speed tend to cause nervous strain.
(*c*) Factors that restrict mental growth.	None.
(*d*) Factors that are in other respects important as affecting the welfare of workers (*i.e.*, liability to accident, occupational diseases).	Dirty work on some machines occasionally causes operators to avoid it. Slight possibility of accident.
3. Qualifications and Training Needed.	
(*a*) General education.	At least grammar school training; high school training preferred.
(*b*) Necessary technical education.	Knowledge of particular machines. Usually six- to ten-week courses in factory schools, some department stores, business schools, or commercial high schools.

OCCUPATION ON THE SKILLED LEVEL — *Continued*

Occupation	Office Machine Operator
(*c*) Manipulative skill.	Handling of machines. (Quantity of work is determined by individual capacity.)
(*d*) Other requirements: — qualities essential, such as accuracy, etc.	Accuracy, quickness, mental alertness, neatness, orderliness. (Operators of Elliott-Fisher machines should understand bookkeeping.)
4. Possibilities for Advancement.	
(*a*) Provisions made for systematic instruction.	None, but usually individual instructions are given for using the different makes of machines.
(*b*) Necessary or technical knowledge.	Knowledge of machines mentioned or those used in particular office in question.
(*c*) Manipulative skill.	Accuracy and speed as required in work.
(*d*) Extent to which entire industry can be learned in establishment.	Usually slight without supplementary training.
(*e*) Line of promotion.	To higher clerical positions.
5. Remuneration.	
(*a*) Wages.	Usual range, $18.00 to $37.50 a week, depending upon nature of work.
(*b*) Special.	None.
6. Hours of Work.	About eight hours.
7. Seasonal Demands	
(*a*) Busy season.	None.
(*b*) Slack season.	None.
(*c*) Fluctuation in employment.	Constant.

OCCUPATION ON THE SKILLED LEVEL — *Continued*

Occupation	Office Machine Operator
8. Are Workers Organized?	No.
9. Entrance Age.	17 years or older.
10. Time Required to Learn Duties.	Time needed to learn bookkeeping, plus two or three weeks of specialized training on machines.
11. Is Supply of Labor Adequate to Meet Demand?	Yes.
12. Is Demand for Labor Increasing or Decreasing?	Increasing.
13. What Is the Source of Supply?	Public school bureau and private agencies, business schools, commercial high schools, factory schools.
14. Common Deficiencies of Workers.	Lack of concentration, understanding of work, personal responsibility, neatness, speed.

STUDY OF AN OCCUPATION ON THE SCIENCE LEVEL

Occupation	Special Chemist
1. Nature of Work.	Every plant has some unusual substances to be tested, new materials come in — a competitor's products, oils, waxes, paints, waste, ores, and, in some cases, foods and drugs. The routine chemist would not know how to handle these special tests. The special chemist also looks for the causes whenever there is trouble which routine tests do not find. He also improves factory processes and products. This work often takes him out into the plant to observe operations and to collect samples.
2. Main Advantages and Disadvantages.	
(*a*) Factors that interest and develop the worker.	New samples and different products have to be analyzed. Specifications for the purchase of material have to be worked out. Each new problem met and solved develops confidence.
(*b*) Factors that cause physical or nervous strain.	Exacting requirements of accuracy and attention to detail would be trying to one of nervous temperament.
(*c*) Factors that restrict mental growth.	None.
(*d*) Factors that are in other respects important as affecting the welfare of workers (*i.e.*, liability to accident, occupational diseases).	Explosions and accidental poisoning are less easy to guard against in special tests on new material than in routine work.

OCCUPATION ON THE SCIENCE LEVEL — *Continued*

Occupation	Special Chemist
3. Qualifications and Training Needed.	
(*a*) General education.	College graduate.
(*b*) Necessary technical education.	College work in quantitative, organic, and physical chemistry usually required.
(*c*) Manipulative skill.	Same as for routine with wider knowledge of special apparatus, such as colorimeters, stills, extractors.
(*d*) Other requirements: — qualities essential, such as accuracy, etc.	Same as routine, together with initiative and self-confidence.
4. Possibilities for Advancement.	
(*a*) Provisions made for systematic instruction.	Instructions as to special methods are given by head chemist.
(*b*) Necessary or technical knowledge.	A broad scientific training is required as a foundation.
(*c*) Manipulative skill.	Experienced men are required.
(*d*) Extent to which occupation can be learned in establishment.	Special applications may be learned on the job.
(*e*) Line of promotion.	May go into research work, become head of department, or even superintendent.
5. Remuneration.	
(*a*) Wages.	A wide range, from mere living wage to very high salary, dependent on the size of the organization and the character of the work done.
(*b*) Special.	None.

OCCUPATION ON THE SCIENCE LEVEL — *Continued*

Occupation	Special Chemist
6. Hours of Work.	Eight or nine hours — often irregular because of the kind of researches made.
7. Seasonal Demands in Work (*a*) Busy season. (*b*) Slack season. (*c*) Fluctuation in employment.	 All year. None. Very little.
8. Are Workers Organized?	No.
9. Entrance Age.	21 to 45 years.
10. Time Required to Learn Duties.	Four to six years beyond high school.
11. Is Supply of Labor Adequate to Meet Demand?	Yes.
12. Is Demand for Labor Increasing or Decreasing?	Little change.
13. What Is the Source of Supply?	College graduates with scientific training, with experience in other plants.
14. Common Deficiencies of Workers.	Lack of sufficient scientific training.

In the samples of reports presented on pages 37–54, you will see that three different outlines have been used. Any one of these is satisfactory. The one used to illustrate the study of a job on the little-skill level is based on the outline in the appendix of *Our World of Work* (page 337).

(3) *Gathering Information.* — When your committee has chosen the outline it considers advisable,

every member must share in the gathering of material. This may be done in four ways: (1) through reference reading; (2) through visiting; (3) through interviewing; and (4) through moving and still pictures. Your chairman may assign some members to

VISITING TO LEARN *Ewing Galloway*

Visiting a working plant is the very best way to obtain information—particularly if a worker will explain things carefully, as this one is doing. How can he explain that motor so that even the smallest boy can understand?

do reading, some visiting, and some interviewing; or he may think it better to assign the first topic of the outline to one member, the second to another member, and so forth, leaving each member to discover his facts by all three methods if he wishes. Pictures, slides, charts, journals, and texts of information should be collected.

(*a*) *Reference Reading.* — If you consult in your library Allen's *Guide to the Study of Occupations* you will find in it a bibliography of readings upon the occupation which your committee has chosen. Some of the books suggested you may have in your own school but for others you will have to be dependent upon public library service. Trade journals offer much helpful information and these can usually be obtained from firms publishing them or from secretaries of associations.

(*b*) *Visiting.* — The second method of obtaining occupational information is through an actual visit. You have visited the dentist and have felt the effects of his work. You know the librarian and have some idea of what he or she does. You know the teacher, pastor, and the doctor quite well. Visits to the shops in your own or another school are always possible and very helpful. In addition your committee may obtain permission to go into actual plants in your locality and see some or all of the operations involved in manufacture. Commercial and industrial pursuits, we know little about. Visits where these are permitted are the best way of getting a picture of what actually goes on in the world of work about us.

Before you plan to visit any factory or industrial plant, be sure that your teacher or principal makes the arrangement for you with some employment head. When you go, keep with whatever guide is furnished, and do not interfere with the workers. Know what information you want, and ask all your

questions of the guide. As soon as the visit is over, write out your impressions and the facts you have collected. It is a good plan to have a copy of your written record sent to the guide who showed you through the plant so that he may correct inaccuracies if any have appeared.

If your occupational study coincides with a city exposition or other appropriate local exhibit, much information can be obtained through a visit to it, and helpful printed matter can be collected. Such opportunities cannot be foreseen, but when they happen to occur at the right time, full advantage of them should be taken.

(*c*) *Interviewing.* — Usually some member of a committee or the teacher of the class will know a worker in a given occupation who will be willing to sit down with a student interviewer and explain certain details of the work that he performs, and the preparation that he found necessary. The interviewer will, of course, present himself at a convenient time set by the worker, and will know what questions he wants to ask. Questions should be confined to details of the occupation and of the training necessary for it. It is impolite, for example, to ask the worker what pay he receives.

Courtesy during the interview and thanks at the close of it will help to leave with the worker a good impression of the school which the student represents. Facts should be written down before they fade from memory and, as in the case of the visit, a copy should be sent to the person concerned.

The following description of a trade is typical of the excellent vocational information a shop instructor can supply:

PATTERN MAKING

The first question that comes to the mind of a person when pattern making is mentioned is: "What is pattern making?" Pattern making is the art of making a model or form from which a mold can be made in damp sand. This mold when filled with molten metal gives the same shape as the pattern, and is known as a casting. The exterior form of an ordinary pattern corresponds to the shape of the casting to be produced, except for the holes for interior passages which are required in the casting. The pattern is provided with projections known as core-prints, which give it a different appearance from the casting reproduced in the mold.

The information regarding the size and shape of the various patterns to be made is given to the pattern maker in the form of a blueprint or sketch. From this blueprint, the pattern maker shapes the wood into the desired form.

The materials for making patterns include wood, metal, and plaster. The kinds of wood used are white pine, mahogany, cherry, walnut, and white wood, which should be well seasoned. White pine is considered superior to all other woods, because it is easily worked, readily takes glue and varnish, and is fairly durable. Mahogany is preferred where the patterns are small and are to be extensively used. Among the metals used for patterns are brass, cast iron, and aluminum. Metal patterns are used when a great number of castings are to be made because they are durable and superior in retaining the required shape.

Of the various ways of making patterns, the one-piece or solid pattern is the simplest. As the term indicates, the pattern is in one piece, but it may be constructed of several pieces of wood which are fastened together permanently.

Patterns are also split, the two parts being held in their proper relation by dowel pins.

In the construction of patterns, special rules are used which are called shrink rules. The shrinkage allowance is made to compensate for the contraction of metals just before they solidify in cooling off. The amount of shrinkage allowed depends on the kind of metal used. Iron, for instance, shrinks $\frac{1}{10}$ to $\frac{1}{8}$ inch per foot; brass $\frac{3}{16}$ inch per foot, etc.

Patterns are shellacked, varnished, or lacquered, for protection against moisture. Practically every shop has its own color scheme for patterns. This color scheme serves as a guide to the foundry-man.

The hand tools used in making patterns are of the best type of wood-working tools. The machines commonly used in pattern-making are the variety saw, jointer, band saw, planer, lathe, tool grinder, disc and spindle sander.

The patternmaker's trade is not affected by seasons. It is dependent on general manufacturing conditions in the country, especially the condition of the steel and iron trade. The working day is usually eight hours in length or forty-four hours per week. Pattern-making stimulates interest and intelligence because of the variety of problems it presents.

Some interviews can be quite informal. Most people are interested to talk about their work and if you tap this source of information among your relatives and older friends you will be surprised at how much you will find out.

"I never knew before," said one junior high school girl, "how much there is to being a telephone girl. My cousin is one and she told me how the telephone company takes girls of sixteen but prefers those older with high school education. These girls are trained for three weeks in how to read their switchboards and to make connections rapidly, and how to enunciate clearly, just how to repeat numbers, and what to

say in emergencies. After some time at the switchboards, they can be promoted to be supervisors in charge of nine girls. The supervisors help in a tangle of " traffic " as they call it and take care of any unusual call, like one where a number has been called without giving its party letter. They generally help the girls to keep things running fast. Then you can be long distance operator and chief operator too. My cousin says she has fifteen minutes rest period in the morning and again in the afternoon. This helps to keep the girls from getting nervous. The work is nervous especially when many calls are coming in and you have to keep your head, and sometimes you get tired sitting and tired wearing the headpiece but on the whole it is a pretty good job for a girl."

This account is not complete. It must be supplemented by reading and made more detailed. The kind of exchange where the dial system of calling numbers is used, for example, needs investigating, and the work of men around telephone exchanges should be considered. But this first-hand method of getting information gives one a real look at the job through the eyes of a worker, and that is interesting and worth while.

(4) *Moving Pictures.* — Sometimes a much clearer picture of an occupation can be obtained from a moving picture of it than from an actual visit. A picture prepared in a great plant to spread information about its work shows operations and details in careful arrangement and leaves the audience with a satisfactory idea of the whole. Trade pictures can usually be borrowed or rented and often public showings of them are given after announcement in the newspaper. Many times in the regular bills

of moving-picture theaters interesting processes are shown on the screen.

This source of information, like the exhibit, cannot always be planned in advance, but if you are alert to get occupational information, you will not let slip whatever opportunity presents itself in the movies. (See *Our World of Work*, pages 348–350, for companies having available vocational films.)

(4) *Arranging the Report.* — When all the information is ready, your committee will have to meet and work out the report. Probably reports will be presented orally and if so an outline of the complete report should be made in writing as a basis for your talk.

(5) *Presenting the Report.* — You may decide to have every member present a section of your committee report, or to appoint one member to give the entire report. In the latter case, the other members of the committee should also assume definite responsibilities. One may arrange and prepare to explain an exhibit of pictures, materials, and tools; another may explain films or slides; another may be prepared to answer the questions of the class when the speaker is through; and another may write on the board and discuss a reference book list dealing with the occupation described, and allied occupations.

The member presenting the report should try to give a clear and full description of the occupation, following the details of the outline. He should remember that the rest of the class, who compose

the audience, have not been studying the occupation and therefore lack knowledge of its details. If the skeleton outline on page 49 is being used, for example, the speaker will explain what the different machines are and how they work. When the facts have been presented, some member of the committee should tell the class just what the committee did to gather the information, so that not only will the report give the class information concerning an actual job, but also a clear idea of how to study an occupation in this field.

The presentation of a committee report will probably take one period so that five periods will be necessary for the five reports, but five excellent reports will give the whole class information concerning five occupations plus a good idea of what a vocational study means.

My Guidance Scrapbook — Personal Work

1. *My Guidepost*

   The first two lines of the stanza that opens this chapter would make a good guidepost inscription.

2. *Chapter Information*

   Summarize this chapter by writing four or five general sentences which present in outline form the principal thoughts of the chapter in the order in which they occur.

3. *My Study of Vocations*

   By this time your personal study of an occupation or occupations should be fairly under way towards a well-developed record in the part of your scrapbook reserved for that purpose. To make sure that you are covering

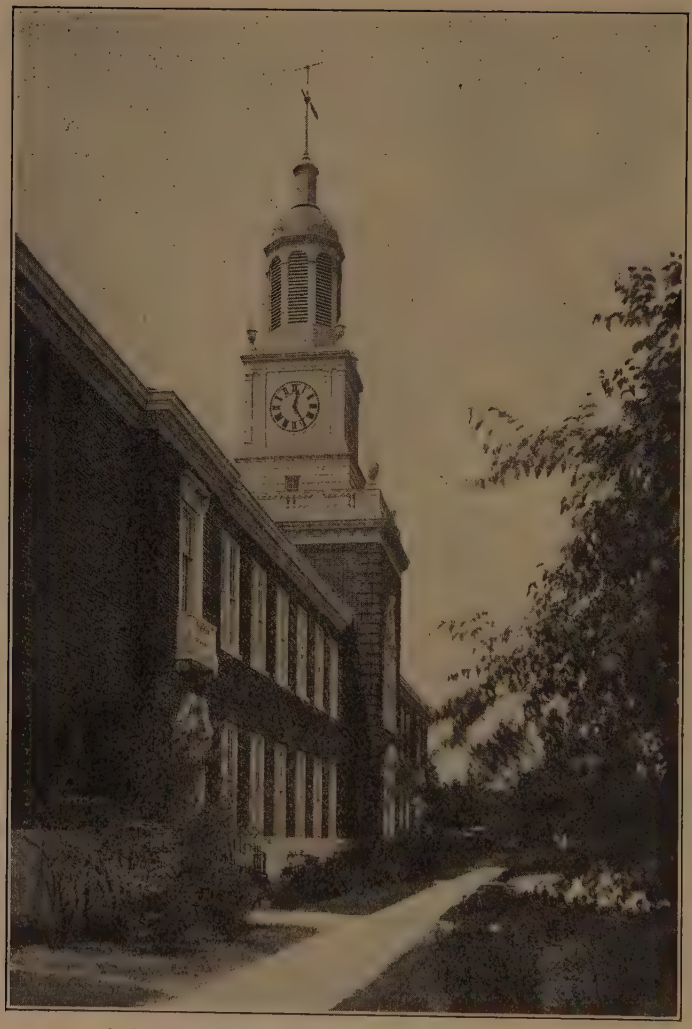
every point that you ought to cover in such a study, choose one of the suggested outlines (pages 37–51), copy its headings in your scrapbook on the pages immediately following your last entry, and then fill in the outline with the facts which you have obtained from this individual study. If this check-up shows that you have slighted any item of investigation, care for the omission as soon as possible.

4. *Interesting Readings*

Kitson, *How to Find the Right Vocation*
Rodgers, *Careers*
Wanger, *What Girls Can Do*
Jackson, *What Men Do*

5. *Scrapbook Suggestions*

Let each member of the class write his account of an actual interview with some worker in the community. Stage a contest to see which three members of the class have written the best interviews, and then arrange with your principal to have interviews read at the next school assembly.



A Junior High School in Trenton, New Jersey

CHAPTER III

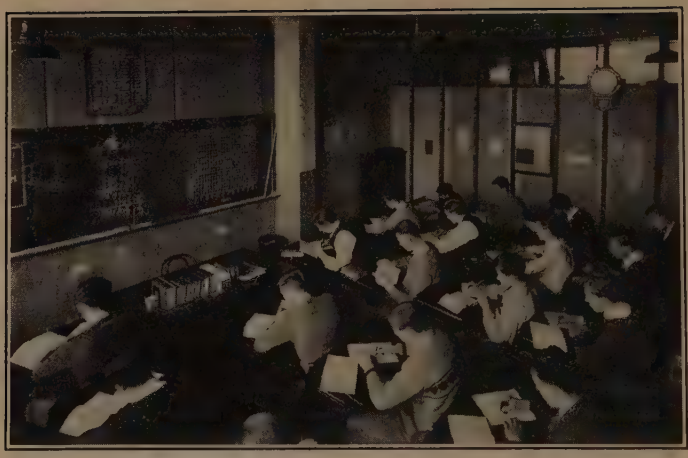
YOUR LIFE IN HIGH SCHOOL

Shoulder to shoulder,
Where honor leads the way,
We march in pride and loyalty
To meet the coming day.
Head high and heart high,
We play our part with zest
For our loved school that summons us
To give the world our best.

— High School Song

It is now time for you to consider whether or not you are going to complete your high school course. Perhaps a long education for the children has always been taken for granted in your family, so that no problem arises at this time. On the other hand, it may be that your continuing in school will mean a family sacrifice which ought not to be made. Perhaps the whole matter depends entirely upon what you yourself wish.

If you are face to face with the need for making a decision, you are probably asking yourself such questions as: "What will high school do for me?" "Shall I be better able to help my family after I go through high school?" "Do I really like school well enough to go on?" "Have I the ability to do high school work?" Before making a decision it



A Senior Mathematics Class in a Vocational School

What is meant by "related mathematics"?

A School Library

A pleasant place for work or leisure hours.

is wise to discover the facts, so the first part of this chapter will explain what the high school is like and what it offers. Later the value of choosing a definite high school program will be considered.

Our Guidance Study Hour — Class Work

How the High School Came to Be. — High school education in both its junior and its senior sections

A Reading from Homer

is often called *secondary education* to distinguish it from primary or elementary education. If you have studied the contribution of the Greeks to civilization, you realize that what we call secondary education really began with them. At first, when the Greeks were an agricultural and pastoral people, the education of youth was very simple and placed emphasis chiefly upon training the body. Later, as the Greeks extended their influence, men had to be trained for the affairs of government. A public

official's power depended considerably upon his ability in public discussion, so grammar, rhetoric, and logic were part of his training. Gymnastics, music, mathematics, and astronomy were also subjects of instruction. Only a favored few could have the privilege of education in Greece, but this was the far-away beginning of the kind of schooling that has developed into the high school courses of to-day.

The High School, One of America's Privileges. — The story of education in the United States is a glorious story of persistent efforts to make education free to all the people in whatever forms they want it. Although we have not yet made college education freely available for all, public support for high schools is now nation-wide, so that those who desire secondary education may obtain it without the payment of tuition. According to our government statistics, there are between four and five million boys and girls attending public high schools in the United States at the present time. We take free secondary education so much for granted that we forget what earnest efforts were required to bring it about.

Colonial Beginnings of High School Education. — For the sake of contrast with the modern high school and its possibilities, let us look for a moment at the "higher" schools of colonial days. Have you ever heard or read of the Boston Latin School? This school, founded in 1635, was the first "higher" school in America. We cannot call it a high school

in the sense in which we use the term to-day, but it did offer, together with the common branches, a few advanced studies. Twelve years after the founding of this school, Massachusetts passed a law that similar schools must be established wherever

BOSTON LATIN SCHOOL IN 1845

The Boston Latin School is still a part of the Boston school system, but now is housed in modern quarters.

there were one hundred families. These schools were called "grammar" schools, showing the influence of the old Greek idea that advanced schooling should lay chief emphasis upon the study of language and its forms.

When we use the term "grammar school" to-day,

we generally mean an eight-grade school, but our colonial ancestors considered the grammar school as the college preparatory school for boys who hoped to be judges, ministers, teachers, physicians, or officers of the government. Most of these old grammar schools taught Latin, Greek, and advanced mathematics, in addition to reading, writing, and arithmetic. Usually the head master ran the school as a private business and made his living by charging the parents of his pupils for the instruction given.

Girls were admitted to these grammar schools occasionally. The old records show that they attended " at separate hours to receive instruction in spelling, reading, writing, arithmetic, and religion." Studies like Latin and mathematics were not considered suitable for girls, although there were private schools attended only by girls where these subjects were taught. How strange it would seem to the girls of to-day if they had first to beg and plead at home for permission to go to high school; then had to go at odd hours when the masters were not occupied with boys; and at the same time were told that they could not take the really advanced subjects!

Another colonial high school was the Philadelphia Academy planned by Benjamin Franklin. *Academy* as a name for secondary school also came from the Greeks. Plato taught the young Athenians in a grove near Athens, a grove called the *akademeia*, and so his group of pupils was called the " Academy." Franklin, knowing this, thought the name a good

THE FIRST SEMINARY FOR GIRLS IN AMERICA

"Still sits the school-house by the road,
A ragged beggar sunning."

A MODERN SEMINARY FOR GIRLS

one for the school he hoped to found. Franklin had a broad vision of what a secondary school might do for its pupils. If you are interested in knowing what he wanted to include in high school education, the following paragraph quoted in part from his own description will show you what the school was to offer:

Franklin proposed a plan for an academy at Philadelphia as early as 1743. Here the youth were to be taught "those things

FRANKLIN ACADEMY

Benjamin Franklin was a man of "many interests." Try to recall as many of them as you know about.

that are likely to be most useful and most ornamental; regard being had for the several professions for which they are intended." The greatest stress was to be placed on studies in English, but all were to be taught penmanship, drawing, arithmetic, including

accounts, and the first principles of geometry and astronomy. History was to include "all kinds of useful knowledge" in the fields of geography, chronology, ancient customs, oratory, civil government, logic, and even morality and religion. Natural history (science) was to be accompanied by practical exercises in agriculture and horticulture. Commerce, industry, and mechanics were thought to be both useful and entertaining for all. With such an array of curricular offerings the academy was to cultivate "that benignity of mind which is the foundation of good breeding," and to encourage a sincere desire "to serve mankind, one's country, friends, and family." [1]

Discussion Problem 3. From the brief descriptions given here, show how the idea of a high school had broadened between 1635 and 1743. If you wish to find out more about the two schools mentioned by name, consult an encyclopedia or a history of education.

The High School To-day. — High schools to-day differ with the size and needs of the town or city in which they are located. If you live in the country or in a village, the high school with which you are most familiar may share a building with the elementary grades. It does its best to offer you as broad a program as the number of pupils in attendance will permit, but the courses have to be limited to those subjects which a large proportion of the students will want. If, for example, there are only ninety students in the entire high school section of a country school, a course in Spanish for which there are only

[1] Monroe and Weber, *The High School*, Doubleday, Doran and Co., Garden City, N. Y.

Lake Junior High School, Denver, Colorado

Compare this beautiful building and its attractive setting with that of the first seminary for girls. Explain the reasons for the difference.

Horace Mann High School, Gary, Indiana

Why are there so many "Horace Mann" schools in our country?

two applicants, or a course in machine shop work which only four boys want, cannot well be given. The services of a teacher and the purchase of equipment would be too great an expense upon the community for the very small number of students served.

If you live in a large city you actually choose among different kinds of high schools — technical, industrial, commercial, or academic. You may also find that boys and girls go to separate high schools. Between the very small and the very large community is the medium-sized city or town with its one or more " comprehensive " high schools — so called because in one building all kinds of electives, — academic, technical, commercial, and industrial — are offered, and all kinds of students — boys and girls, bright and slow — are enrolled.

Discussion Problem 4. Consider your own high school as an outgrowth of the community life. Is it a " specialized " or a " comprehensive " high school? Why?

Choosing Your Work in High School. — If the high school in your own community is a large school offering many electives, your problem will be one of careful choosing; if it is a small school, your problem will be one of using what it offers for the highest degree of self-development. Learning depends so much upon willingness and persistence that other conditions play a somewhat secondary part. Thought-

ful planning and earnest effort are more necessary to your school success than the building or equipment, although the latter may serve to make your pathway easier.

Are You Going to College? — Before you can plan your high school course intelligently, you will have to ask yourself the question: "Do I expect to go to college?" If your answer to this is, "Yes, I think so, as far as I can judge now," it is wise to go a step further and decide, for the time being, at least, what college you wish to enter.

Since most colleges are not a part of a public school system, but are endowed schools supporting themselves from private funds and from the tuition of students, they establish their own entrance requirements which differ for different colleges. Some demand more mathematics or more foreign language study, for example, than others. Unless you check the matter carefully in advance, you may find at graduation time that you lack some points which the college of your choice has established as a requirement. A high school diploma alone does not entitle you to enter college.

Ways of Discovering College Entrance Requirements. — There are several ways of discovering what various colleges demand as entrance requirements. One way is to consult *The College Blue Book*.[1] This book is carefully compiled and, if you

[1] H. W. Hurt, *The College Blue Book*, New York City.

have the latest edition, it will give you accurate information about the subjects required, the length of time these must be studied, the electives possible, and the total credits which must be offered for entrance. Page 78 will show you

ENTRANCE GATE AT MOUNT HOLYOKE COLLEGE
Another "Open Gate for Girls."

the kind of information which *The College Blue Book* contains.

Another helpful reference book is *The College Directory*.[1] Here you may find details concerning kind and size of college, tuition, and entrance requirements. On page 79 is shown a sample of the information contained in *The College Directory*.

[1] Lyman K. Davis, publisher, Springfield, Illinois.

TYPICAL INFORMATION FROM THE COLLEGE BLUE BOOK (1928)

	UNIVERSITY OF CALIFORNIA	VASSAR
Location	Coëducational. Berkeley, California.	Women only. Poughkeepsie, New York.
Requirements for Entrance	For A.B. degree: Total of 15 units. Same requirements for S.B. degree. Admission certificate or examination.	For A.B. degree: Total of 15 units with 3 units of English, 3 of mathematics, 5 of foreign languages, 1 of history. No S.B. degree. Admission by examination.
Requirements for Graduation	Total of 124 units. For A.B. degree: Entrance examination English; 2 units in mathematics req. in H. S.; 12 semester hours in science; 3–4 semester hours in physical education.	Total of 120 units plus 6 in physical education.
Fees and Expenses	Tuition $150.00 Other general fees 50.00 Minimum board (inc. minimum room) 315.00 Laboratory fees in chem., biology, and physics 28.00 Low Annual Student Expenses 750.00 (No subject involving added tuition fees.)	Tuition $400.00 No other general fees. Board and room 600.00 No laboratory fees. Music and art involving added tuition fees.

TYPICAL INFORMATION FROM THE COLLEGE DIRECTORY (1929)

CARNEGIE INSTITUTE OF TECHNOLOGY Pittsburgh, Pa.	A coëducational Technical and Fine Arts college, 2478 students. Annual tuition: $300.00 ENTRANCE REQUIREMENTS: 15 units: English 3, one foreign language 2. Additional units for the various curricula: Engineering and Industries: algebra 1½, plane geometry 1, solid geometry ½, physics 1, only 3 vocational. Architecture: history 1 (exclusive of U. S. history and civics), algebra 1½, plane geometry 1, only 5 vocational. Fine Arts: history 1 (exclusive of U. S. history and civics), only 5 vocational. Margaret Morrison College: algebra 1½, plane geometry 1, only 2 vocational.
KANSAS STATE TEACHERS COLLEGE Emporia	A coëducational teacher training college. 1440 students. Annual tuition: residents of the state — free; non-residents of the state — $30.00. Board: $180.00. Room $96.00–$160.00. ENTRANCE REQUIREMENTS: Certificate of graduation or 15 units of approved work from an accredited high school: English 3, history 1, algebra 1, plane geometry 1, science 1.

Most high schools keep files of college catalogues. The college catalogue is a printed bulletin describing the college, the courses that it offers, the degrees which it gives, and the entrance requirements which

A High School Library

What right have high schools to such expensive equipment?

it has established. If your school does not have a collection of catalogues, your class might plan to gather one by writing for the bulletins to the registrars of the various colleges which members of your class expect to attend.

Some school systems have made very helpful charts concerning the colleges. Pages 82 and 83 show a sample page from a book published for the high school pupils of Hartford, Connecticut,[1] to help

[1] Compiled by A. C. Hoyt, Director of High School Research, Hartford, Connecticut.

them choose their college, and to show them what subjects must be included in their high school courses to meet specific entrance requirements.

Your principal and the teacher who is acting as faculty adviser for your class are also sources of information about college entrance. Usually their experience in preparing students for college is invaluable and they can give you much personal advice. It is wise to consult them about your plans for the present and future, and to use the help that they stand ready to give.

Chapter iv of this book will deal with college opportunities in general, so nothing more need be said about college education here. You will realize, however, that deciding whether or not you will go to college and what you will take in college depends upon what you will choose as your final vocational field, and what part you mean school education to play in your life.

If You Are Not Going to College. — Suppose you are not planning to go to college when you finish high school. You will make a wiser choice of electives in the high school program if you decide, for the time being, at least, in what field of work you mean to earn your living. **This does not mean that you must know just what job you are going to enter.** It would be impossible in most cases to have such definite information three or four years in advance. **It does mean, however, that you should have formed some opinion as to *your own***

COLLEGE INFORMATION CHART — 1929

Name and Location of College	Units		Admission Requirements for A B. degree	Admission Requirements for B S. degree
	Prescribed	Optional		
Bryn Mawr Bryn Mawr, Pa.	15	0	Anc. Lang. 4 English 3 Mathematics 3 Phys. or Chem. 1 History 1 (Anc. or Amer.) Foreign Lang. 3 (Fr., Ger., or Gr.)	Not Granted
Carnegie Inst. of Technology *Colleges:* Engineering Industries Fine Arts Carnegie College Pittsburgh, Pa.	 9 9 9 7½	 6 6 6 7½	English 3 History 1 Foreign Lang. 2 Electives 9	English 3 Algebra 1½ Plane Geom. 1 Foreign Lang. 2 Solid Geom. ½ Physics 1 Electives 6
Colby College Waterville, Maine	9	5	English 3 Latin 4 Algebra 1½ Plane Geom. 1	English 3 Algebra 1½ Plane Geom. 1 Modern Lang. 2 Science 1 History 1
Columbia University New York, N. Y.	11 or 10	4 or 5	English 3 Algebra 2 Plane Geom. 1 Foreign Lang. 4 If 3 in Lang. — History 1 Phys. or Chem. 1	English 3 Foreign Lang. 3 History 1 Algebra 2 Plane Geom. 1 Science 1

COLLEGE INFORMATION CHART — 1929 — *Continued*

Specialized Courses Offered	Entrance by Certificate	Cost of Tuition	Cost of Room	Cost of Board	Scholarships, Loans, etc.	Student Enrollment	Faculty
None	No	$400	$50–575	$400		494	70
	Yes	$300	$100	$275–350	$45,000 Scholarship, $25,000 Loan Fund	2449	285
2-year pre-medical 4-year pre-technical	Yes	$200	$60–70	$250	Scholarship endowment funds, $200,000	630	35
Architecture Business Dentistry Engineering Journalism Law Medicine Theology	No Psychol.	$360	$170–212	$288–396	Loan funds, Competitive and special scholarships, Prizes	2024 (College) Total 36,688	1282

***abilities and likings* in relation to the great occupational fields.**

You will recall the occupational fields and the three training levels studied in Chapter II. They may be diagramed as follows:

The field of agriculture	
The field of business	Little-skill level
The field of industry	Skilled level
The field of home making	Science level
The field of professions	

A high school education, with well-chosen electives, helps you to reach the skilled level in an occupation fairly soon if you prove to have adaptability for the job. At the present time you might state your purpose to yourself like this:

I plan to become a worker at the skilled level in the commercial field.

I plan to become a worker at the skilled level in the agricultural field.

Your purpose made clear to yourself becomes a guide in choosing what studies you will pursue in high school.

The High School Program of Studies. — High school programs differ in different cities. Most high school programs are built up on the unit plan. A *unit* means a subject assigned either four or five class periods a week throughout a school year. Certain of these units, which are often called constants, are

required of all students. Constants may vary somewhat in different high schools, but the following list is typical:

REQUIRED HIGH SCHOOL UNITS

(These are listed here on the basis of a four-year high school. City systems having junior high schools credit the ninth year in units or base their senior high school credits on a three-year plan.)

English	3 units or 4 units.
Science	1 unit or 2 units.
Mathematics	2 units (either algebra and geometry or bookkeeping and commercial mathematics).
American history	1 unit.
Civics	$\frac{1}{2}$ unit.
Health	May be required without unit credit or may receive the credit of $\frac{1}{4}$ or $\frac{1}{2}$ unit.

Electives, courses among which the pupil may choose, are more closely related to the great vocational fields given on page 84. The chart on page 86 shows the electives offered in the Washington Senior High School (10th, 11th, 12th grades) of Cedar Rapids, Iowa:

Discussion Problem 5. The list of electives presented on page 86 is alphabetical. In each year pick out the special electives related to the vocational fields listed on page 84. Is there any great vocational field not represented by specific electives in this high school? If so, can you give a reason for the omission?

ELECTIVES OF WASHINGTON SENIOR HIGH SCHOOL, CEDAR RAPIDS, IOWA — 1929–1930

Tenth Year	*Eleventh Year*	*Twelfth Year*
Art 1, 2	Algebra 3 (in 11b)	Algebra 4
Biology 1, 2	Art 3, 4	Art 5, 6
Bookkeeping 1, 2	Bookkeeping 3, 4	Economics (in 12b)
Business arithmetic (in 10b)	Business law	English 7, 8
	Chemistry 1, 2	French 5, 6
Business geography (in 10a)	Drafting 3, 4	Grammar
	Foundry practice 1, 2	Journalism
Drafting 1, 2	French 3, 4	Latin 7, 8
French 1, 2	Geometry 3	Machine shop 1, 2
Geometry 1, 2	Latin 5, 6	Modern literature
Latin 3, 4	Music	Music
Modern history 1, 2	Sewing 3, 4	Physics 1, 2
	Shorthand 1, 2	Salesmanship
Music	Spanish 3, 4	Sewing 5, 6
Pattern making 1, 2	Typing 1, 2	Shorthand 3, 4
		Social problems (in 12a)
Sewing 1, 2		Spanish 5, 6
Spanish 1, 2		Speech
		Trigonometry (in 12a)
		Typing 3, 4

NOTE. Numbers refer to semesters through the series of years in which the subject is offered.

Making Your High School Schedule. — In general, a student's schedule in the four-year high school is arranged so that he carries at least four units of work each year. This gives him a total of sixteen units for graduation. Some of the electives, languages, for example, must be studied for two or three years, and it is a good plan to carry any of the major subjects chosen (history, science, home economics,

shop, etc.) for at least two years. Pupils who attain satisfactory ratings after the first year are usually allowed to elect extra units if they wish, and are thus enabled to broaden their program. Often music, art, handwork, and typewriting are chosen as extras by pupils not doing major work in these subjects.

In order to center effort and prevent scattering among electives, most high schools put into the hands of their pupils suggested organizations of their four years' work. A typical sheet for the guidance of pupils in a small high school is shown on pages 88, 89. An organization of subjects around a central core is shown on pages 90, 91. The commercial curriculum is chosen as an example in the latter case.

Discussion Problem 6. Obtain the pamphlet showing the courses of the high school to which you are going. (If it has no printed pamphlet, obtain the list of required and elective subjects.) Work out a four-year schedule for: (*a*) a pupil going to ..... College or University; (*b*) a pupil who wants commercial training; (*c*) a pupil who is undecided. Justify your choice among electives in each case, and be sure that the schedules you have organized fulfill all requirements set up for high school graduation.

Choosing Your Work in High School. — Your study of schedules in the discussion problem will show you that a high school course ought to be planned *in full*, not merely from year to year.

Some Suggested Four-Year Programs

I. For entrance to the *arts course* in most colleges:

First Year	*Second Year*	*Third Year*	*Fourth Year*
English I	English II	English III	English IV
Latin I	Latin II	Latin III	(Latin IV)
Algebra	French I	French II	(French III)
Biology or general science	Plane geometry	Intermediate algebra	History III
		Civics ($\frac{1}{2}$)	Physics or chemistry

II. For entrance to *engineering* and other *technical* schools:

English I	English II	English III	English IV
French I	French II	French III	Solid geometry
Algebra	Plane geometry	Intermediate algebra	Trigonometry
Biology or general science	Drafting ($\frac{2}{5}$)	Physics	History III
	History I	Civics ($\frac{1}{2}$)	Chemistry

III. For entrance to a *normal school,* also to a *nurse's training school* if chemistry is taken:

English I	English II	English III	English IV
Latin I	Latin II	Latin or French	Latin or French
Algebra	Plane geometry	Civics ($\frac{1}{2}$)	History III
Biology or general science	History I	French or history II	Physics or chemistry
Music or art	Music or art	Music or art	Music or art

IV. Commercial preparation on the skilled level:

English I	English II	English III	Bus. English
Biology or general science	Bookkeeping II	Applied chemistry	History III
Bookkeeping I	Shorthand I	Shorthand II	Com'l law ($\frac{1}{2}$)
Typewriting I	Typewriting II	Civics ($\frac{1}{2}$)	Economics ($\frac{1}{2}$)
Com'l arithmetic	Com'l geography	History, home making, or shop	Home making or shop

Additional academic electives are usually required of students who wish to enter business schools of collegiate grade. Such colleges as the Harvard School of Business Administration are graduate schools requiring a college degree for admission.

NOTES: 1. A subject with its credit inclosed in parenthesis may be omitted if college entrance requirements allow.

2. It is desirable that pupils intending to enter college decide on the particular institution not later than the beginning of the eleventh year, as colleges differ somewhat in requirements. Intermediate algebra is required for most colleges. Foreign language requirements vary from 2 to 7 units with 5 a fair average.

3. Many normal school graduates desire later to obtain a college degree. It is therefore wise for students intending to enter normal schools to be prepared to satisfy minimum college entrance requirements, including three units in one foreign language and intermediate algebra.

4. In all except the commercial course, classes in art, music, drafting, home making, print shop, and craft shop may be elected, if your school provides such courses. In the commercial course, these subjects can not well be chosen until the second year, and better not until the third.

5. Pupils who change their courses will have difficulty in following any one of these programs.

BUSINESS PREPARATORY COURSES
GENERAL BUSINESS CURRICULUM

Grade IX

Required

English 1	5
Science 1	4–3
Civics	4–3
Mathematics 1	5
Junior business training	5
Physical education 1	2–1

Optional

Mechanical drawing	2–1
Freehand drawing	2–1
Chorus	1–½
Instrumental music	1–½

Grade X

Required

English 2	5
Science 2	5
Bookkeeping 1	5
Mathematics 2	5
Physical education 2	2–1

Elect One

Modern history	5
[1] Spanish 1	5

Optional

Mechanical drawing	2–1
Freehand drawing	2–1
Chorus	1–½
Instrumental music	1–½

Grade XI

Required

English 3	5
Science 3	5
United States History	5
Physical education 3	2–1

Elect Two

Mathematics 3	5
[2] Stenography 1	5
[2] Typewriting 1	4–3
Commercial Geography (one-half year)	2½
Business Organization (one-half year)	2½
Spanish 2	5½

Optional

Freehand drawing	2–1
Mechanical drawing	2–1
Chorus	1–½
Instrumental music	1–½

Grade XII

Required

English 4	5
Problems of democracy	5
Science 4	5
Bookkeeping 2	5
or	
[2] Stenography 2	5
[2] Typewriting 2	4–3

Electives

Correspondence and business law	5
Spanish 3	5
Mechanical drawing	2–1
Freehand drawing	2–1
Chorus	1–½
Instrumental music	1–½

NOTE: The numbers in the columns at the right of the subjects show how many times a week a subject is given.

[1] B mark in English required.

[2] These two subjects must be taken together.

OFFICE TRAINING CURRICULUM

Required	
English 1	5
Science 1	4–3
Civics	4–3
Mathematics 1	5
Junior business training	5
Foods	2–1
Physical education 1	2–1
Elective	
Chorus	1–½
Instrumental music	1–½

Required	
English 2	5
Science 2	5
Bookkeeping 1	5
Typewriting 1	4–3
Clothing	4–3
Physical education 2	2–1
Elective	
Freehand drawing	2–1
Chorus	1–½
Instrumental music	1–½

Required	
English 3	5
United States history	5
Hygiene (one-half year)	4–2½
Computing machine theory (one-half year)	4–2½
Typewriting 2	4–3
Physical education	2–1
Elect One	
Stenography 1	5
Office practice 1	5
Optional	
Chorus	1–½
Instrumental music	1–½
Freehand drawing	2–1
* Dietetics and Nutrition	2–2½
* Home nursing and child care	2–2½

Required	
English 4	5
Problems of democracy	5
Typewriting 3	4–3
Elect One Group	
Stenography 2	5
Correspondence and office assignments	5
or	
Office practice 2	5
Bookkeeping machine theory	5
Optional	
Chorus	1–½
Instrumental music	1–½

*These must be taken together as a unit.

ORGANIZATION OF SUBJECTS INTO BUSINESS PREPARATORY COURSES

Newton, Massachusetts

1929

This does not mean that, once planned, a course cannot be changed. If changes are necessary later, they will be the result of intelligent decision in the light of new facts rather than mere whims.

It is always difficult to look ahead clearly, but there are a few questions like the following that it is desirable to ask yourself in choosing your high school work:

(*a*) In junior high school, or in the eighth grade, have I shown any special excellence or weakness in my studies?

(*b*) What kind of work do I really like best?

(*c*) Have I any handicap that must be taken into consideration? (For example, must I favor my eyes? Are my health and strength going to be equal to the task which I see as my long goal? Am I lacking in initiative?)

(*d*) Have I the persistence to acquire, in spite of any difficulties, the training that I need?

When you answer these questions frankly and honestly, you will have a basis for choice of course. When the " want-to-do " and the " can-do " factors are both present, success and contentment are assured. The can-do element or special ability and the want-to-do element or special interest should both be present. " Want-to-do " alone is not sufficient if you are mentally or physically unable to acquire the skill necessary. " Can-do " leaves you more or less unsatisfied if the desire to work in a given field cannot be developed. These factors can be discovered by examining and thinking about your daily experiences and special successes in school and out.

A Well-Balanced High School Life. — A modern high school offers many opportunities for self-development in addition to its curriculums. If we look at high school life in relation to the seven objectives of education studied in chapter i, we shall see that high school has its contribution to make along each line to the final objective of the good life. It is worth while to consider high school possibilities from this viewpoint.

Health. — More and more, all schools and colleges are organizing their forces in the interests of public health. You are already familiar with the health programs of the elementary schools. The high school will give you further help in improving and conserving your health.

The high school which you attend may be equipped with a gymnasium, a swimming pool, and an athletic field, or it may have only one of these, but whatever its equipment may be, some physical training is given as part of the required program. This is welcomed by most boys and girls, although there are always a few students who, for one reason or another, wish to be excused from the physical education periods. This is a poor policy, unless you have an actual physical defect, since the exercises and games are developing and stimulating, and are designed to give pleasurable exercise without strain.

In addition to the in-school physical education, after-school athletics for boys and for girls are largely organized. Many high schools are now abandoning the idea of intensive training for a few members of

a team, in favor of large participation in games with inter-class and inter-school contests to arouse interest through healthy competition. The chart on page 95 shows the physical education in after-school activities of the boys in the high schools of Rochester, New

HIGH SCHOOL HOCKEY

The faces of these girls show how much they enjoy their "health program" provided by the school.

York. The girls also have an after-school recreation program of active games.

If you are the quiet, studious boy or girl who is likely to go through life in an occupation demanding little physical activity, the high school years offer a good time to learn a few games which may provide lifelong interest in outdoor activities. Such changes of activities are necessary aids to good work.

BOYS' AFTER-SCHOOL RECREATION AND ATHLETICS

Senior High Schools, Rochester, New York

SCHOOL		R 1928	S 1928	W 1928	T 1928	U 1928	V 1928
Total school enrollment (boys)		1299	650	1041	282	254	453
No. of students participating in at least one sport		909	429	672	247	186	270
No. of students participating in just one sport		456	123	230	99	104	132
No. of students participating in two sports		290	114	428	50	43	84
No. of students participating in three or more sports		166	192	14	98	39	54
Distribution of student participation by sports:	Tennis	51	44	20	92	28	10
	Basket ball	500	192	370	108	103	158
	Swimming	118	47	36	54	56	25
	Baseball	212	84	50	139	52	89
	Soccer	189	243	206	96	104	117
	Playground baseball	250	268	365		82	94
	Track	103	73	66	31	32	76
	Cross-country	46	25	12		10	25
	Wrestling	65	56	27	27		38
	Golf	25	29	32	36	10	8
	Skating	14	10	24	9	18	8
	Hockey	26	16			18	18
	Miscellaneous				71		40

In addition, tennis, volley ball, basket ball, baseball, golf, hockey, swimming, and horseback riding, help you to have poise in your contacts with other young people, to win or lose a contest without

After-School Athletics

Even practice games have their loyal spectators. So the schools contribute to the "Worthy Use of Leisure."

boasting or sulking, and to meet difficulties with determination and with a smile. This is excellent training for harmonious living. The great interest nowadays in sports is wholesome and is not confined to boys and girls. Many a mother or father can still beat a high school son or daughter at tennis or swimming and laugh with the contestant over a common interest.

Ewing Galloway

THE FAMILY GOES SKIING

In this family both father and mother find time to enjoy out-door sports with the children.

It is customary to think of the physical education part of high school work as the school's only contribution to health training, but this is not the case. Many high schools specialize in other features of health work. For example, in some high schools a trained dietitian supervises school luncheons, and not only sees that the proper healthful balance of food values is maintained in the menus offered, but also looks over the trays selected by the pupils in the cafeteria to make sure that a healthful diet is observed. This is a service developed entirely in

your interest and it deserves your full coöperation. Even if you do not patronize the school cafeteria but bring your lunch from home, you can take advantage of the helpfulness of the dietitian in planning the foods which will be best for you in the middle of the day.

In some high schools, a doctor and a nurse are on duty on certain days, but whether your school is or is not able to maintain such a service, there is always some member of the faculty — a science teacher, a home economics teacher, a health education teacher, or a counselor — who is interested in helping students to maintain their health. Advice which these teachers give should be carefully observed.

Command of Fundamentals. — The chief duty of the high school, like that of any school, is to assist pupils to gain useful knowledge and skill. The principal difference between your high school experience and your previous school experience lies in the greater independence which is expected of you.

You are naturally anxious to succeed in your school work. Perhaps you may profit by the example of a student whose record in the grades had been only average but whose work was above average in his high school studies. His former teacher met him one day and, expressing her pleasure at his rather unexpected success in high school, asked him how he managed it. He replied that he had decided when he went into high school to " hear everything that was said in class." He meant by this, con-

A Class in Household Electricity

A modern laboratory which teaches girls how to use and take care of household electrical appliances.

A Science Laboratory in High School

Where a life interest in science is often born!

centrated attention, — which is one of the most important factors in school achievement.

Another way to attain command of one's subjects is to develop good study habits. Your seventh- and eighth-grade training has helped you in this respect, but you will have an opportunity to apply what you have learned in a somewhat more unsupervised fashion. Most high schools use the home-study plan. If home study is to be successful, a good method must be followed. For a textbook subject, the process is usually like this:

1. *Understand clearly your assignment.* Know so definitely what your topic or problem is that you will be able to state it clearly to yourself before you begin to read.

2. *Read the section that relates to the topic.* This first reading will give you a good bird's-eye view.

3. *Let your mind work upon the material.* When you are reading, you are making use of the thinking of some one else — the author of the book. Now think yourself. Ask yourself questions about what you have just read; think of concrete illustrations out of your own experience; turn over and over in your mind parts that are not clear to you until you begin to see light.

4. *Re-read the lesson.* This time your attention as you read will be directed to different viewpoints because of the mental activity of step 3.

5. *Consult other reference books and texts if possible.*

6. *"Over-learn" parts which you ought to remember because they are essential to your further progress in the subject.* Over-learning is meant to balance the natural tendency to forget. Recite difficult parts to yourself, make an outline of essentials on paper, set up cues that will help you remember what is necessary.

7. *Summarize the whole lesson.* This means re-thinking what you have just studied in the light of the topic or problem with

which you started. A good organization of the facts and ideas which you have acquired means that you really know the lesson.

Discussion Problem 7. The study steps which you have just read apply to subjects where reading is the means of learning. Plan a series of steps for a laboratory lesson in science. Plan a series of steps for the preparation of a lesson in mathematics.

Ethical Character. — A progressive high school hardly feels itself complete without its code of ethics which becomes a standard for teachers and pupils alike. Ethics comes from a Greek word "ethos" meaning character, so a code of ethics is a character code. If your school has such a code or is planning to have one, you will find in the adoption and application of it in your daily life a sure guide to fine character. You have only to glance at the codes, reprinted here, to see how far high school students have gone in expressing their ideals of fine living. Time and again a young high school student has shown his ability to meet a crisis because day after day he or she has met the school standards of honor, and so has developed unshakable attitudes toward right conduct.

Code of the High School of Commerce, New York City

We, the students of The High School of Commerce in the City of New York, desire ourselves as *Commerce* men to be:

Loyal and obedient to parents, teachers, and those in authority;

Clean and honest in speech, thoughts, and habits;

Cheerful and friendly to all;
Sportsmanlike in athletics;
Punctual in meeting our obligations;
Courageous in standing up for what is fair and right;
Thrifty in caring for public and private property;
Industrious in using our time and opportunities;
Helpful and courteous to others as we would have them be to us; and
Faithful in serving our school, our country, and our God.

Adopted by unanimous vote of the Council of the General Organization, The High School of Commerce, New York City.

CODE OF THE CURTIS HIGH SCHOOL, NEW YORK CITY

We, the students of Curtis High School, in order to uphold our motto of "COURAGE, COURTESY, and CULTURE," deem it necessary to maintain a code of Curtis ideals for ourselves and our successors:

Courtesy in deeds, thoughts, and actions.
Unity in our student government.
Respect for ourselves, our faculty, and our school.
Tenacity in our athletics and in our studies.
Intelligence in our scholarship.
Service to our fellow students, to our school, and to our country.

Worthy Home Membership. — High school life helps a student to develop an interesting personality. Broad reading and the access to new books, the discussion in the history class of some topic of the day, the school play which is centering the thought of many boys and girls, are all interesting material for the home to hear about. Telling about some of the fun of high school life makes the dinner-table conversation lively, too. Some of your parents without the advantages of high school education have made

genuine sacrifices to keep you in school; they will enjoy your sharing with them some of the benefits you are receiving. Others will be able to live over again their own high school days as they see you enjoying yours.

The novel which your English teacher recommended and which you found interesting, your father and mother may enjoy also, if you speak of it to them; the football game with its thrill and excitement may become a family event; the after-school illustrated lecture which the science department is fostering may appeal quite as much to a member of your home circle as it does to you, if you take pains to speak about it. All together, the high school may contribute to the home much of interest, culture, and enjoyment, but its only medium for doing so is its students.

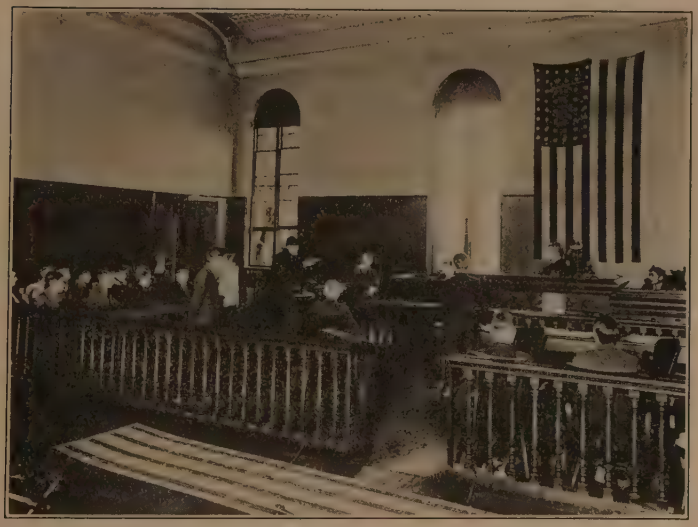
You can make your school life a broadening experience for the others in your family if you share it. A father came into a public library and asked for a book that would tell him about ionization because his son had shown him a notebook in chemistry, with the record of the boy's work on the characteristics of the hydrogen ion. The father said that he had once studied chemistry in high school but that ionization was a later discovery of science which he would like to know about. He had developed a new interest, and every new interest adds zest to life.

Too often the high school boy or girl becomes self-centered, sometimes even surly or cold at home. This is a pity both for the home and for the student.

Registering for School Elections
Training for citizenship.

Voting for Office Holders
These boys and girls are learning how to choose the best person for the job.

Talking over your work makes it more interesting. You can brighten the somewhat dreary round of housework for your mother or the tiresome detail of the job for your father by cheerful tales of school happenings. Help to keep the home circle a gay and happy place.



FACING THE JUDGMENT OF HIS SCHOOLMATES!

These boys have been studying court procedure in their civics classes, and are trying out in a real court what they have learned about civic responsibility.

Civic Responsibility. — Most high schools have an organized form of student government. This may be elaborate with many officers and departments, or it may be simple with its student council for the management of school affairs. In either case the student government is one means which the school

takes of helping you to understand the actual workings of government and the share which citizens have in it.

As you go through high school you may be the very popular boy or girl who is frequently elected to office. If so, you will want to try to make yourself a good leader. One year, pupils in Pittsburgh high schools were asked to coöperate with their teachers in discovering what made a good leader. When class or club presidents were being elected, each voter was given a ballot containing a space in which to write the name of the student for whom he was voting, and a long list of possible reasons for choice. After the voter had written the name of his candidate he added the reasons why he voted for that particular student. The fifteen reasons most frequently given are listed here in the order of the number of times mentioned:

Plays fair
Is cheerful — always in good spirits
Does not cheat
Is industrious — a hard worker
Accepts responsibility
Is an honor student — gets good marks
Stands up for his class or club when it is criticized
Interested in this kind of work
Coöperates with others
Has initiative — starts things
Has self-control
Has poise — does not easily get rattled

[1] Bulletin of the Pittsburgh Public Schools, September–October, 1929.

Upholds high standards
Takes pride in the appearance of the school.
Has talent — learns easily

These give you a general idea of the kind of qualities high school pupils want in their leaders. Use this list as a self-rating list and see how many of these wholesome traits you can develop if you are a school officer.

If you are one of the many students who are never elected to school office, you may feel disappointed, but do not let it affect your interest in school affairs. A government that is all governors is like a club that is all officers. There is no one interested in being just " the people," and yet the whole idea of democratic government rests upon the interest and participation of the people.

If you are just one of the " people " in your four years of high school, you can lend willing support to school activities and have a very good time doing so. Student government is good training and good fun even if you do not occupy the " seats of the mighty."

Vocational Fitness. — We have already spoken of the relation of the electives of the high school to the great fields of occupation. In your subjects preparatory for college and the professions, in your commercial subjects, in your home economics subjects, and in your trade subjects you will be aware of fairly direct preparation for certain kinds of vocations.

Probably every subject you really master helps you to be more of a success on the job. A study of English, for example, though not vocational training

except for a few special vocations, equips you with a readiness of speech that is very important in business and social relations. In the same way, other subjects which you study with real interest contribute indirectly to vocational fitness though they

A High School Band

Is this an opportunity for vocational experience?

need not be thought of entirely in terms of direct job preparation.

Worthy Use of Leisure. — Neither parents, teachers, nor pupils want high school life to be all work and no play, so by all means try to find in the active doings of the high school something that means real pleasure for you. The glee club, the orchestra, the school paper, the French club, the athletics, the science clubs are all possibilities for having good times. If there is no club or group in the school

A High School Out-door Concert

The community is permitted to share the benefits of its school.

A High School Group Presents "Nathan Hale"

Are the students who took part in this presentation getting anything more than a "good time" out of it? Explain your answer.

interested in what you like, ask permission to organize a new club. If what you want to do has any value, you will find a few others who will want to join and thus new friendships and new interests will be developed. One boy in a high school liked chess so much that he started a chess club in his home-room section. It wasn't very long before several other classes had chess clubs, and tournaments were being played.

Social Life in the High School. — All the work and play of the high school year contributes to the attainment of the seven great objectives. Throughout the three or four years there you will be making friends and learning how to work and to have good times together.

It is better to have several friends, both boys and girls, rather than just one or not any. If you let one friend, however much you think of him or her, take up all your time, you are losing certain benefits that come from being part of a large group. You and your friend come to lean too heavily upon each other. It is even worse to go through high school with no effort to make friends with anybody. Society depends upon the friendliness and mutual interests which bring men together in a kindly spirit of coöperation.

It is worthwhile to be sociable but do not overdo it. The happy medium lies in having a few fellow students with whom you are always glad to be, and many acquaintances to whom you show a general

but less intimate friendliness. Needless to say, you will want to choose your friends from among those students whose speech, manners, and unsupervised actions meet your own high standards. No one wants to be made ridiculous by the company of

Courtesy of Children's Museum of Boston

SATURDAY MORNING — THE HOBBY CLUB MEETING

Get a hobby, a worthy use of leisure time.

persons who are rude in speech, extreme in dress, underhanded in character, and overconspicuous because of loud, noisy, and uncontrolled conduct.

Time Budgeting. — High school life is a busy life. There are classes to attend and home work to do, games where you are a participant or a cheering spectator, glee club or dramatic rehearsals, and now

and then a party. To keep your head in the midst of bustle and of the call of many interesting activities requires real steadiness. A time budget will be really helpful. Some high schools provide a time form for their students to fill in, on which the hours of the working day are accounted for. You can make such a budget for yourself, however, and if after making it you hold yourself to carrying it out, you will be surprised at how much you can do without becoming tired or nervous. A time for study and a time for recreation every day, a Friday night for parties, movies, or an occasional dance can all be provided if you use a little thought.

My Guidance Scrapbook — Personal Work

1. *My Guidepost*

   At the head of this chapter is a stanza from a high school song sung regularly by a large group of students. In spirit it shows what any high school may mean to all those who find training and development within its walls.

   The motto for your guidepost may be a word from this high school song or a phrase that sums up for you what you expect high school to do for you.

2. *Chapter Information*

   (1) List the five occupational fields mentioned in this chapter and under each place the elective subjects of your high school that contribute training toward these fields.

   (2) Use each of the seven objectives of education as a main heading in an outline and under each heading show by subtopics the contributions which high school life makes toward its achievement. The explanatory paragraphs in the text will give you the material to outline although you may be able to enlarge upon this material from your personal knowledge of your own local high school.

3. *Interesting Readings*

Gollomb, *That Year at Lincoln High — Working Through at Lincoln High*

Heyliger, *The Spirit of the Leader*
High Benton

Brown, *Philippa at Halcyon*

Dudley, *Making the Nine*

4. *My Study of Vocations*

This chapter has discussed high schools, what they are, what they do. Examine your own high school curriculum, find out what courses you think will help you in training for your vocation, and list them in your notebook project. What more have you learned concerning the vocations you are studying since chapter i? From what sources has this information come?

5. *Scrapbook Suggestions*

(1) The following paragraphs are the foreword in a handbook given to freshman students in a senior high school:

FOREWORD

As you enter John Marshall High School let it be with the realization that this school belongs to you and its success or failure from a scholastic viewpoint and its influence in the community depends upon the measure of devotion and loyalty which you give.

As you give your best to the making of a better school the best a school can give will come back to you.

Copy these words, substituting the name of your own high school for that of the John Marshall High School. Then explain what this foreword means.

(2) Prepare an outline for a student's handbook if your school has none. The outline might include such topics as the program of studies, the organization of the school, its government, extra-curricular activities (clubs, athletics, dramatics,

and so forth), health program, honorary awards, school song, code, and all the special features that give your school its individuality. Compare your items with those of other members of your class. Perhaps your group will like to try making the handbook. It can be mimeographed if your school has no facilities for printing. It should, of course, reflect the spirit as well as indicate the work of your school.

(3) Appoint a committee to compile a chart of information about the colleges in which your class is particularly interested.

(4) Prepare a time budget for your waking day and present it to the class for criticism.

Charles William Eliot

No man has ever made a deeper impression on the educational system of America than Charles William Eliot, who was for forty years president of Harvard College. He was elected when only thirty-five years of age, the youngest president of Harvard ever chosen. A graduate of Harvard himself, and a tutor there directly after his graduation, he came to his office with a thorough knowledge of conditions within the college.

His was not an easy path. Wherever he turned he encountered opposition, sometimes even ridicule, but he thrived on it. With head high, he met each rebuff and clung to his ideals for Harvard. He succeeded in accomplishing many needed reforms, and made of Harvard a university of world-wide fame. He first introduced the elective system whereby a student might choose with almost unlimited freedom the courses which he wished to study. He substituted lecture courses for recitations, made examinations written instead of oral, and abolished compulsory religious worship.

His particular interest lay in the graduate schools. He put the Law School on its feet by making a college degree an entrance requirement and by putting excellent professors in charge of the courses. He made the Divinity School, which had been Unitarian, a broader nonsectarian School of Theology. He developed and brought into prominence the other graduate schools which gave the higher degrees.

Dr. Eliot was a man born for leadership. He was capable of thinking out and executing great plans. He chose his subordinates carefully with an instinctive keenness of judgment. He lived to be over ninety — a "grand old man" of great dignity and gravity, highly respected by all who knew him.

A Part of the Campus at Dartmouth

CHAPTER IV

THE UNIVERSITY

Fair to the view is sacred Truth displayed
In all the majesty of light arrayed,
To teach, on rapid wings, the curious soul
To roam from heaven to heaven, from pole to pole.

— WORDSWORTH

Many boys and girls in high school are eagerly looking forward to college life. As occupations have come to demand more and more knowledge and skill from young men and women, a college education has become a usual requirement for positions on the science training level in agriculture, industry, and commerce as well as in the professions, and an increasing number of home makers are glad to say that they have been trained in college for their life-long job. Through stories, songs, and in other ways, college life has also had a strong personal appeal to many boys and girls who have not thought much about the other more important advantages which a college training gives. This chapter tells what college really has to offer in training for the good life.

OUR GUIDANCE STUDY HOUR — CLASS WORK

The College and the University. — What is the difference between a college and a university? A *college* is a school of higher learning incorporated for

instruction in the liberal arts or in one of the professional studies. Its charter permits the awarding of degrees. A *university* consists of several colleges or schools under one head. In olden times the university traditionally had colleges (schools) of law, of medicine, and of theology (preparation for the priesthood or the ministry). To-day a large university may also have colleges of agriculture, of the mechanic arts, of arts and letters, of education, of social science, of business administration, and others. The greatest universities in this country have fourteen or fifteen such divisions, each with its own faculty (group of teachers) and equipment, and some with their own special buildings.

CHAUCER'S TIME
"A clerk ther was of Oxenford also . . ."

The University of the Past. — Originally the term *universitas* meant any corporation, but gradually it came to be applied to groups of scholars and teachers who banded together, often for protection against the townspeople who charged them unjust prices for food, clothing, and shelter, and often that they might find some retreat where they could study in peace away from the warlike atmosphere of feudal days.

Probably the first European university was the University of Salerno in Italy. This was a school of medicine in the ninth century. Another important early university was the University of Paris, to which, during the thirteenth century, students came from all over Europe because of the presence of the great teacher Abelard. With the Renaissance and the revival of learning the poor scholar became a common figure in the university towns. Frequently he was in tatters and close to starvation, but the love of learning burned in him.

Sometime you may read Chaucer's *Canterbury Tales* in the original and there you will find this description of an Oxford scholar — Chaucer calls him a clerk:

A clerk ther was of Oxenford also,
That unto logik hadde longe i-go
Al so lene was his hors as is a rake
And he was not right fat, I undertake;
But lokede holwe, and therto soburly
Ful threadbare was his overest courtepy.

. . . . . .

Him was lever have at his beddes heed
Twenty bookes clothed in blak and reed
Of Aristotil, and of his philosophie,
Than robus riche or fithul, or sawtrie.

. . . . . .

Al that he might of his frendes hente
On books and his lernying he it spente
An busily gan for the soules pray
Of hem that gaf him wherwith to scolay.

This is difficult to read because the English language of Chaucer's time (about 1400) differed from

its present form. You can get the sense of the quotation, however, without much help. The poor scholar of Oxford, with threadbare cape, went with the pilgrims to Canterbury. He rode a lean old horse, and was himself quite starved in appearance. He loved books above everything. Money that friendly people gave him (for poor scholars often received contributions) he spent on books and learning, praying for the souls of those who furnished him means to continue his schooling.

Gradually the great universities obtained lands and buildings, and added to the subjects taught. They were always chartered to give degrees by the pope, emperor, or king. A degree conferred by a medieval university meant merely a license to teach others what the scholar had been taught.

The University in America. — In America three colleges — Harvard, William and Mary, and Yale — were founded in colonial times. They are proud of their part in colonial and Revolutionary history. At Yale, for example, in front of the first building erected on the campus stands a statue of Nathan Hale, who was one of its students. These colleges rapidly became universities concerned chiefly with law, medicine, and theology. To-day they offer courses in many fields of learning.

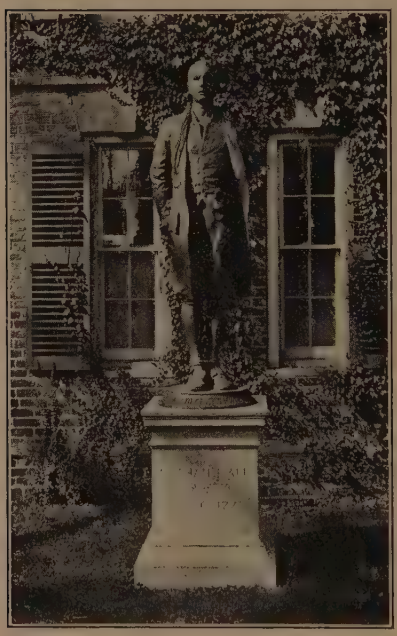
During the Civil War the country felt the need of encouraging advanced training in agriculture and mechanics. Congress therefore authorized a grant of land in the west to every state in the union under

The Campus at the University of Virginia

Duke University as It Will Be

This university of the future will consist of about forty buildings on a campus of four thousand acres. Larger and larger institutions of learning are needed to accommodate those who are eager for a college education.

the condition that proceeds from the sale or development of the land should be used to establish universities. These universities so established were to give courses in subjects of direct value to agriculture and industry. Courses in the liberal arts, like literature, mathematics, and foreign languages, were often included.



STATUE OF NATHAN HALE AT YALE

"I only regret that I have but one life to lose for my country."

NATHAN HALE — HIS LAST WORDS — SEPT. 22, 1776

Colleges founded as a result of this act of Congress were called "land-grant" colleges. Cornell University is a land-grant university. States followed the lead of Congress in setting aside lands for the support of institutes of learning, and universities thus founded were called state universities. The University of Texas is a state university. On the lands set aside for its use, oil was discovered, so that it is to-day one of the wealthiest universities in the world.

HARVARD COLLEGE IN ITS EARLY DAYS

WILLIAM AND MARY COLLEGE

The central building is the oldest college building in America.

College and University Degrees. — The symbol of graduation from a college or university is the diploma which shows that a degree has been awarded to its holder. When commencement exercises are held, the students who have successfully completed their work in approved courses are presented by the deans of their respective colleges or departments to the president of the university as candidates for degrees. The president in the presence of the trustees then confers upon them the degrees which they have earned and all the " rights and privileges of the university."

At the close of four years of study the student usually receives either an A.B. degree (bachelor of arts) or an S.B. degree (bachelor of science). The term *bachelor* in this connection comes to us from the universities of the Middle Ages, when it had somewhat the meaning of *apprentice*. It has nothing to do with the present-day meaning of *bachelor*, an unmarried man. The term should be contrasted with *master* in the degree A.M. or master of arts. The master of arts degree is given for a fifth year of successful study and represents a greater " mastery " of a given field than the bachelorship or apprenticeship to learning.

The difference between an A.B. and an S.B. degree is one which results from a choice of studies. If one has chosen most of one's subjects in literature, history, philosophy, the languages, and mathematics, the A.B. degree is earned; if one has given more attention to sciences than to literature and history,

Simmons College

This college is one of our colleges for girls which emphasizes vocational opportunities.

Massachusetts Institute of Technology

the S.B. degree is conferred. The following is a typical university program leading to bachelors' degrees.

THE ARTS COURSE — BACHELOR OF ARTS DEGREE

The principal departments of instruction are arranged in three groups as follows:

Group I	*Group II*	*Group III*
English	Economics	Biology
German	Education	Chemistry
Greek	History and government	Geology
Latin	Philosophy	Mathematics
Romance languages	Psychology	Physics
		Physiology

Each candidate for the degree of Bachelor of Arts must complete: (1) the general requirements which insure a desirable breadth of education (these prescribe a minimum amount of work in each of the three major fields of knowledge corresponding to the three groups of departments, and in physical education); (2) the requirement for concentration which calls for a reasonable amount of specialization in some one department.

The A.M. degree requires an added year of study during which approximately half of one's time is spent in subjects of a special field. If, for example, one were seeking a master's degree in mathematics, from twelve to eighteen points would have to be earned in the study of advanced mathematics. The other credits could be earned in any subject which is listed in the college catalogue as receiving master's credit.

In addition to the extra year of work, some universities and colleges require a *thesis*. A thesis is a long

A Typical Course Leading to a Bachelor of Science Degree

MECHANICAL ENGINEERING — SYNOPSIS

First Term	Hours	Second Term	Hours
		Freshman Year	
Mathematics 3	5	Mathematics 3	5
Rhetoric 1	3	Rhetoric 1	3
Chemistry 1 or 2	4	Chemistry 1 or 2	4
Drawing 1	2	Drawing 2	2
Power engineering 1	1	Mechanical laboratory 1	1
Physical education 1	1	Physical education 1	1
		Sophomore Year	
Mathematics 4	3	Applied mechanics 1	5
English 1	3	English 1	3
Physics 1	4	Physics 1	4
Machine design 1	2	Machine design 2	2
Government 1	3	Government 1	3
Physical education 2	1	Physical education 2	1
		Junior Year	
Applied mechanics 2	4	Power engineering 2	4
Materials 1	2	Hydraulics	3
Materials laboratory	2	Hydraulics laboratory	1
Hydraulics laboratory	1	Surveying	1
Machine design 4	3	Materials 2	2
Machine design 5	2	Industrial engineering 1	2
Shop	2	Machine design 4	3
		Shop	1
		Senior Year	
Power engineering 3	3	Law of contracts	3
Electrical engineering 6	4	Electrical engineering 6	4
Economics 1	3	Economics 1	3
Power laboratory 1	3	Power laboratory 1	3
Elective	3	Elective	3
Industrial engineering 2	2	Industrial engineering 3	2

paper (often one hundred or one hundred and fifty typewritten pages) representing individual study and research. A student in the history department, for example, may choose for a thesis such a subject as "The Attitude of John Adams on the Slavery Question" or "The Effects of the Industrial Revolution upon American Education." He consults all available first-hand material such as diaries, published statements of great men, and contemporary laws. Then he proceeds to organize what he finds out into a well thought-out study, giving his authority for statements, weighing the importance of facts, reaching conclusions justified by the evidence, and expressing the whole in clear, correct English.

PORTIA LAW SCHOOL
The only school of its kind for women law students.

On the Campus at Stanford University

The Library at the University of Michigan

Ewing Galloway

SOME OF THE BUILDINGS AT THE UNIVERSITY OF CHICAGO

COLUMBIA UNIVERSITY

The pictures on this page and the preceding page represent a cross-section of university opportunity, from coast to coast, of our country.

If a student works for his master's degree in a field of experimental study rather than in a field of research reading, his thesis may be the presentation in writing of some experimentation which he has carried out, and which has led him to certain conclusions. Many studies in chemistry, physics, bacteriology, and psychology made by graduate students (that is, those having their bachelor's degree) have thrown new light on some large problem.

The highest degree awarded by a college is the *doctor's* degree. Doctor's degrees are awarded in medicine, theology (the ministry), law, science, philosophy, and other subjects. The symbols are:

M.D. Doctor of Medicine
D.D. Doctor of Divinity (Theology)
LL.D. Doctor of Laws
Sc.D. Doctor of Science
Ph.D. Doctor of Philosophy

The winning of these degrees requires from seven to eight years of study beyond high school. Students getting ready for the degree of doctor of medicine, for example, must spend six or more years in college and medical school to obtain a doctor's degree. The degree of M.D. from a recognized medical school of a university is registered by the state and the new physician is then issued a license.

Discussion Problem 8. What are the relative advantages of an A.B. and an S.B. degree? Which would you like to work for if you were about to enter college? Why?

A Course Preparatory to Work for the Degree of Doctor of Medicine

Vital Economics — Synopsis

Freshman Year

First Term	Hours	Second Term	Hours
Rhetoric 1	3	Rhetoric	3
Mathematics 1	3	Mathematics 1	3
Chemistry 1 or 2	4	Chemistry 1 or 2	4
German or French 1	3	German or French	3
Physical education 1	1	Physical education 1	1
Physical education 3	1	Physical education 3	1

Sophomore Year

History 1 or government 1	3	History 1 or government 1	3
Chemistry 5 or 5 special	4	Chemistry 5 or 5 special	4
Physics 1	4	Physics 1	4
Biology 1	3	Biology 1	3
Physical education 2	1	Physical education	1
Physical education 4	1	Physical education	1

Junior Year

Psychology 1	3	Psychology 1	3
Anatomy	4	Physiology 1	4
Elective	3	Elective	3
Education 1 or chemistry 4	3 or 4	Education 1 or chemistry 4	3 or 4
Physiology 5	3	Physiology 6 or physics 3	3
Physical education 5	2	Physical education 5	2

Senior Year

Physiology 2	6	Medical, orthopedic, and pediatric clinics	4
Education 4	3	Elements of nursing, bandaging, first aid [1]	4
Elective	3	Elective	3
Physical education 6	3	Physical education 6	3
Practice teaching	2	Practice teaching in health	2

[1] Given in School of Nursing.

Choosing a College Course. — In chapter iii, those of you who are hoping to go to college were advised to select your college or university as early as possible in your high school career in order to include in your high school program the subjects which your prospective college requires for entrance. When time for entrance approaches, you ought to try to get a good preview of your coming university life. This can be done by studying the university catalogue, by talking with alumni of the university, and by visiting the university.

Studying the University Catalogue. — You can obtain a catalogue of the university of your choice by writing to the registrar. This will give you information concerning entrance requirements, tuition and other fees, living conditions at the university, courses of study, and all other facts which a new entrant should know. Further details can be obtained from the deans of the various colleges of which the university is composed. Their names will be found in the catalogue. Many high schools keep a shelf of college catalogues from all over the country, so that access to the necessary information is easy.

The catalogue presents the subjects in groups and shows how you are required to distribute your electives (subjects which you may choose) among the groups. Much freedom of choice is allowed. Your full four-year course should be planned in advance to avoid scattering your interests among too many subjects. Changes may be made if need arises,

WELLESLEY COLLEGE CAMPUS

Keystone View

THE AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS

Thirty-nine general buildings and fifteen dormitories appear in this picture. The campus and adjoining college-owned farms approximate 3100 acres.

but long-distance planning of college work is better than a hand-to-mouth choice from term to term.

During your freshman and sophomore years your subjects will be broad and general for the most part, and you will be expected to include in your program some work in the languages (including English), the sciences, and the social studies. During your junior and senior years you will be expected to choose a field of "concentration," that is, a field in which you will do the major part of your studying.

If you have decided on a vocation by this time, you will find it easier to plan your concentration subjects than if you are merely working for a degree. Suppose you mean to enter business when you leave college and plan eventually to become a business executive who directs, plans for, and manages a company. You will concentrate or "major" in the field of economics, taking such subjects as principles of economics, corporation finance, business organization, industrial management, labor problems, and public finance. Or if you wish to become a teacher, you may concentrate in education, taking such subjects as psychology, methods of teaching, school sanitation and hygiene, school administration, and educational measurements. In the large universities this concentrated work is given in special buildings which are called the college of business administration, the college of education, the college of arts and letters (literature), and so forth. All the details of the arrangement of subjects will be found in your catalogue.

Keystone View Company

CLASS DAY AT COLLEGE

When Seniors become Alumni.

FACULTY LINE AT COMMENCEMENT EXERCISES

The faculty, composed of alumni from many colleges, is the real test of college service. Explain.

Alumni Discussion. — The former graduates of a university are called the *alumni* (men) and *alumnae* (women). The words come from the Latin, *alumnus*, meaning "foster-son." If, among your adult acquaintances, there is some one who has attended the college that you have picked out for yourself, he will be able to give you much valuable information. Former graduates usually have a strong feeling of loyalty for their college, and they can tell you much about its traditions, its instructors, its methods, and its interesting activities. In some cities the graduates of certain colleges are numerous enough to form associations that make it part of their activity to interview young men and women who might be interested in going to their old university, their *alma mater* (dear mother), as they so fondly call it. Many colleges to-day have one member of the faculty who travels about the country as a representative of the college, speaking to members of high schools and preparatory schools in general on behalf of the college, arousing or furthering an interest in prospective college students in that particular college.

Visiting. — If you have the opportunity to visit the university which you expect to enter, you will enjoy seeing its campus and buildings, its library facilities, its dormitories, and its laboratories. Some interested instructor will be glad to answer your questions about studies, honors, and activities. Many senior high schools have adopted the helpful practice of taking groups to visit the local college or university.

High School Advisers. — Probably your chief assistance in choosing a college, and later in arranging your college course, will come from some one in your high school — a guidance counselor, a faculty adviser, a dean of boys or of girls, or a vice-principal — whose duty it is to help you make an intelligent decision about your education. Do not fail to use his services as a source of information. College work can be highly profitable or just the opposite. Planning ahead to make it profitable will benefit you right now and assure your future success.

College Life and the Seven Objectives. — The seven objectives, if you actually make them a guide or creed in your university life, will help you to keep a proper balance in the midst of new situations, new friendships, and new outlooks. In the public schools you receive much personal guidance toward the goal of the good life. In college you will be largely responsible for arranging your own life activities to secure their attainment. This is not because college instructors are less friendly or less interested but simply that college students are supposed to be old enough to accept such responsibilities. The college expects you to be independent and self-directing.

Health. — All that you learn in elementary, junior, and senior high school about hygiene and physical care will help you to maintain your bodily vigor during college days. The college student usually cannot live at home while attending college. He then becomes the supervisor of his own diet, and

A College Outing Club

Progressive colleges make good use of out-door activities.

The Outing Club Log Cabin, Mt. Holyoke College

When you go to college, be sure you take part in the out-door activities.

must do his own planning of the time for study, recreation, and rest. If he does these things intelligently, he will enter adulthood not only informed in mind, but also strengthened in body for the responsibilities that are soon to be his as a citizen.

A College Library

"No one tells him (the college student) where or how to get his books or materials for study. All that is considered his own affair."

The girl or boy who takes too many subjects, who strives overmuch for honors, and who becomes nervous and irritable because of the lack of recreation and rest, has not really gained the best from college life. On the other hand, the boy or girl who lets athletics, dancing, and late parties absorb the time that should be given to serious study and preparation

is making an even greater error. Somewhere between the extremes of overworking and overplaying is a happy medium which insures successful study while preserving the best physical and mental state of health.

A Chemistry Lecture Room in College

Who determines what each boy gets from the lecture ?

Command of Fundamentals. — College subjects continue emphasis on the use of the fundamentals and add much to the students' knowledge about them and their many applications. The methods of instruction and study are quite different in some respects from those with which you are familiar. The student attends lectures, is assigned topics for

reference reading or for experimentation, and is expected to prepare himself in a given subject. No one tells him where or how to get his books or materials for study. No one checks up to see whether he does his work daily or not. No one questions the method by which he studies his lesson. No one tries to find him and discover why he was absent, if he " cuts " a class. All that is considered his own affair.

It is assumed at college that a student is interested enough in his education to be responsible for those purely personal acts which spell success or failure. Repeated failures usually mean a request to withdraw from the college; repeated successes bring honors. The college student must be self-directing. " Command of the fundamentals " in college is largely dependent on the student's own earnest purposes, efficient study methods, and conscientious thoroughness.

Ethical Character. — Because the college student is thrown into new associations and has a new freedom and a new independence, the willing acceptance of the objective of ethical character as one of the great aims of life is all the more necessary. Loyalty, a fine sense of honor, cheerful courage, and an enthusiasm for service are just as important in college life as in the vocational world or elsewhere. College activities provide an opportunity for full development of these traits. But it is left to the student to decide whether or not he will make the most of this opportunity.

Worthy Home Membership. — Many college students are for the first time away from home for a lengthy period. Others live at home while they attend college. In either case, thoughtfulness for those at home is only a slight return for the effort and often the sacrifices which have been necessary to send the young members of the family to college. Cheery letters, or cheery conversation, reports of college doings in which every one is interested, and a general attempt to have the family share rather than be excluded from college experiences are the best means of assuring the home folks that they are loved and appreciated at this time.

In another sense, however, this objective is to be met in the college. Not many years after graduation, most of the students will be founding homes of their own. Emphasis on high standards and development of a sensitiveness to fine things should find their expression in wholesome and happy family life. The student who sees how college training may shape life for finer home making will enter adulthood with a desire to make a success in the field of worthy home membership.

Civic Responsibility. — The college is itself a community. All that is practiced upon its campus in the way of self-control, self-direction, participation in the college plans and activities, and willing obedience to student council regulations is direct training for civic life.

In addition, most boys and girls reach the legal age for civic participation in voting during their college

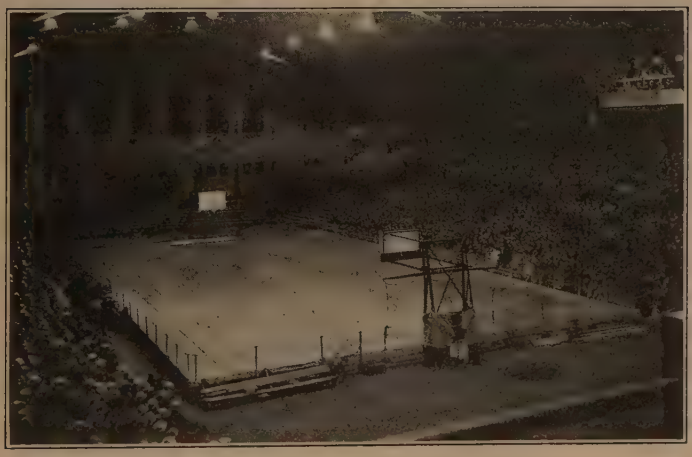
years. The sense of responsibility for social progress which the readings, lectures, and discussions in the social sciences have developed can find immediate outlet in community life. Many young men and women take politics seriously and earnestly because of the attitude of civic responsibility fostered in the college.

Vocational Fitness. — University life has a direct bearing upon vocational training at the science training level. It is possible to graduate from college without being prepared to do any special kind of work, but when this happens, it is the result either of poor planning or of the fact that the student feels it possible to spend an extra year or years in study beyond college graduation. More and more, however, college students are trying to use their college courses not only for general background and culture but also for training in one of the five great vocational fields. **A well-balanced college course takes the vocational objective into consideration and makes provision for developing vocational fitness.**

Worthy Use of Leisure. — The recreational life of a college is usually thought of in terms of athletics. If you enjoy sports, you will find plenty of opportunity for participation in games of all kinds, and if you are good at them, team memberships — football, soccer, hockey, baseball, and track — will be offered you. A sane balance between work and play should be your aim in this respect.

If you are quiet and studious, some form of athletic recreation is just what you need physically,

The Swimming Pool at the University of Michigan



Yost Field House, University of Michigan

College Girls Playing Field Hockey

A University Stadium

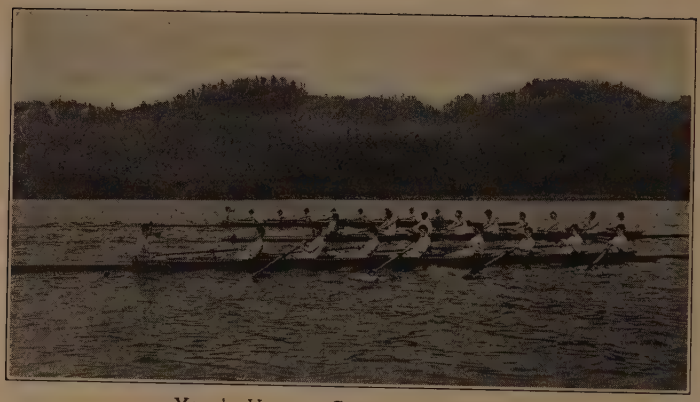
The pictures on the preceding page and on this page suggest that every one can have a part in games at college, even though he may not be a football hero!

and you should take responsibility for participation in the sports program even if you cannot be a star.

On the other hand, if you are a hero of athletics, you will often have to resist undue demand upon your time and vigor. Too many young men and women come to regard the sports life of the college as its most important side, and in so doing forget that just beyond the college campus and the college years is a whole world of adult responsibility for which these years should be preparation. Every one ought to include in a well-balanced life some sports interest that will mean physical exercise, change of thought from worrying problems, and pleasant association, but to allow athletics to become the dominant purpose of one's college days is a mistake.

Worthy use of leisure includes other kinds of enjoyment as well as athletics, and within your university you will find groups interested in art, music, poetry, and dramatics. With some of these you can join in the pursuit of a common interest. Class parties and dances, the social affairs attendant upon team games, the annual commencement exercises, and the accompanying festivities at which you are at first onlookers and at last participants will be pleasant memories to you all your life.

Summary. — The university offers to youth the broad general training which aims to make thoughtful, intelligent, cultured men and women, and at the

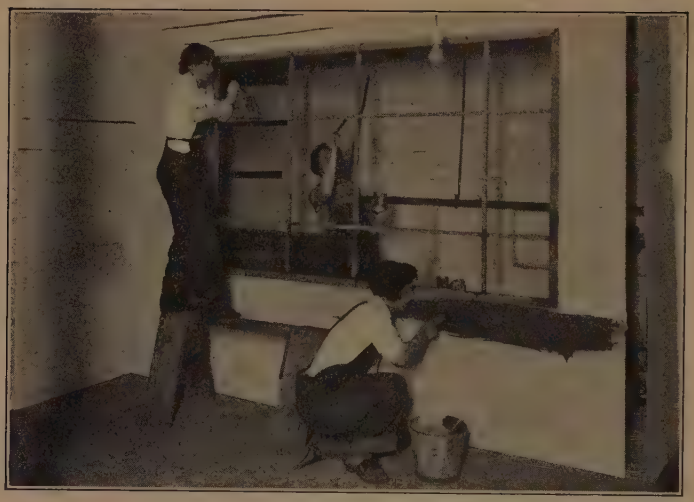


YALE'S VARSITY CREWS AT PRACTICE

WELLESLEY COLLEGE CREWS FORMING THE "W" ON LAKE WABAN

Play Shop Activities of a College Class in Dramatics

May Day



PAINTING SCENERY FOR THE COLLEGE PLAY

Courtesy of Carnegie Institute of Technology

STUDENTS OF THE DEPARTMENT OF DRAMA "AT PLAY"

These pictures and those on the other side of the page all tell a story of leisure pleasures. Explain how each activity illustrated might help a student to find his life work or a worthy hobby.

same time it provides training for the science level in the vocational fields. Getting the most out of college life demands careful planning beforehand, serious effort in the college itself, and a sensible balance of study, recreation, and social activity.

Discussion Problem 9. The following is a conversation taken from a story of college life. Marion and Dale both attend the same college and are good friends:

"I'm trying to make you realize what this university is doing to you. You're its hero. You're the great Dale Birchmier. But you are also its worst patsy, if you only knew it. They've victimized you. They haven't let you study. They haven't let you fit yourself for your career. They've kept you playing football and basketball and all the other games; they've kept you working on committees and wasting your time on fraternity parties. Can you honestly say that you are fit to hold down a job as a civil engineer?"

Defensively: "I can dig into it before June and know as much about it as the average."

"You can't dig into anything and be an athlete and a campus figure at the same time."[1]

Discuss Dale's point of view. Is it sensible?

My Guidance Scrapbook — Personal Work

1. *My Guidepost*

In the course of carrying out the Scrapbook Suggestions below, you will find several good guidepost signs among the

[1] From "College Hero," by Frederick Hazlitt Brennan, in *The Saturday Evening Post*, December 7, 1929.

THE COMMENCEMENT LINE AT TEACHERS COLLEGE, NASHVILLE, TENNESSEE

The "commencement" of education, not the end.

college mottoes. Choose one that you like. If it is in Latin, be sure that you know its meaning.

2. *Chapter Information*

Outline the chapter; then list the degrees awarded by universities, grouping them according to the number of years usually required to earn them. Explain the meaning of each.

3. *Interesting Readings*

Ellis, *Wide Awake Girls at College*

Hawkes, *College — What's the Use?*

Palmer, *Life of Alice Freeman Palmer*

Webster, *When Patty Went to College*

Paine, *Campus Days — College Years — First Down, Kentucky*

Brown, *Two College Girls*

Camp, *Jack Hall at Yale*

4. *My Study of Vocations*

Chapter iv has discussed the value of a college education. Perhaps you have discovered that a course in college is necessary training in the vocations you are studying. If you can have four years in college, what courses will you choose to help you directly in becoming skillful in these vocations? Are there any courses that would help indirectly? Add this information to your notebook project.

5. *Scrapbook Suggestions*

Draw and color in your scrapbook a number of college pennants.

Under each pennant write, if possible, the college motto. It will usually be found in the catalogue on the picture of the seal of the college.

Copy into your scrapbook the words of some college song that express the spirit of the college. Every college has an "Alma Mater" that is serious and ideal in tone.

A High School Home Economics Cottage

A High School Clothing Laboratory

School buildings are often used for classes serving others than the regular student body. These two pictures and the three which follow immediately are from Beaumont, Texas, and are used through the courtesy of South Park High School in that community.

CHAPTER V

EDUCATION OUTSIDE HIGH SCHOOL

Hast not thy share? On winged feet
Lo! it rushes thee to greet;
And all that nature made thine own,
Floating in air or pent in stone,
Will rive the hill and swim the sea
And like thy shadow cling to thee.

— Emerson

Chapters iii and iv have discussed the possibilities of educational advance that are before you if you plan to complete your high school course and enter college. If you decide to go to work without finishing high school, just as much thought and care are needed in planning your educational future. This chapter will show you how you can continue your training and improve your knowledge even though you are busy at some job.

Our Guidance Study Hour — Class Work

After School — What? If you leave school before finishing your course, you must not cheat yourself of the further development of which you are capable, nor do you want to come to manhood or womanhood feeling that you are quite outclassed by the men and women whom you used to know as boys

and girls. You need not miss all the advantages of secondary education just because you must get a job. Of course if you do not have to get a job, it is far simpler to spend the years between fourteen and twenty-two in getting knowledge and skill in various fields of study, but it is quite possible and very much worth while to carry a program of work and study at the same time. The " will to learn " will carry you to success in either case.

Think Before You Act. — Since the way is difficult and sometimes discouraging, a boy or girl ought first of all to be quite sure that it is really necessary to leave school. The step is decisive and one ought frankly to examine one's reasons for withdrawing from school to see whether or not they should be yielded to or resisted.

Mr. A——, for example, says now, when he is forty, that his father should have made him go to school. He thinks that, if he had had more education, he would have been more of a success. Mr. A——'s father, however, says that at fifteen the boy was headstrong about leaving school, that a job had been offered to him paying fifteen dollars a week, and that he was so surly when his parents tried to make him go to high school that they yielded against their own good judgment and now are being blamed.

Mrs. R—— blames not her parents but herself. She says that she missed the advantages of going to high school with the other girls because she disliked having to get to school at a certain hour, having to

attend classes regularly, and having to do home study. She says that, when she was sixteen, she wanted to play the piano and help a little with the housework. She was the "baby" of a large family and was always allowed to do whatever she wanted. She persuaded her mother that she wasn't strong enough for high school, with the result that she lost the benefits of the organized study-play life of high school, and did not have will power enough to plan an out-of-school education for herself. Now when her own children are growing up and in high school, she regrets that she cannot share more in their experiences.

Mr. S—— left school at the end of the eighth grade because his father was dead and his mother was working to support the family. He thought that if he went to work and was successful, his mother could presently stop work and remain at home to keep the house instead of trying to do both. He knows that he did the right thing although he regrets that school was not possible for him. He says that he left school but not schooling, for he tried to study in every way that was open to him. There were no continuation schools in his day, but he went to night school for a while, and then followed a reading course recommended by a public library.

As you examine these cases you will see that only Mr. S—— was justified in leaving school early. Unfortunate circumstances over which he had no control had to be faced; but the other two persons realized, when it was too late, that they had made

a mistake. It will be wise for you to consider your own case carefully if you are about to withdraw from school, and to talk the matter over in detail with your parents and teachers. If your school has a guidance counselor, you will receive extra help in laying out plans. There may be a way out of your special difficulty.

The Continuation School. — Let us suppose, however, that after thoughtful deliberation it seems

A New Stadium in the Making

The class in building trades is shown constructing this stadium.

desirable and necessary that you leave school before finishing high school, and let us also suppose that you are legally old enough to leave school, that you meet the health requirements, and that you have a

An Automobile Repair Class

Learning by Doing

A good paint job!

job in prospect. You may be living in a state where a continuation school law is in force. This is the first avenue of educational advance open to you. Attendance at continuation school is usually required for one day or one-half day a week for all working boys and girls under eighteen years of age.

When continuation schools were first established by law, many young people felt that it was a hardship to attend, and some employers were irritated because junior workers had to be allowed time off for school attendance. Like all movements for social welfare, the continuation school had to establish itself gradually in public opinion. Behind the laws establishing these schools is the idea that, since the state offers free high school education to those able to remain in school, it should offer some educational advantages to boys and girls who have to earn a living. The state is improved by an educated population; therefore the state should be actively concerned in the educational welfare of junior workers.

As this idea became more widely recognized and as industry became organized to meet the five-day or five-and-one-half-day week for young employees, boys and girls began to consider attendance at continuation school an advantage to be seized rather than a requirement to be evaded. A chance for definite training was thus offered. In the cities of New York State, for example, boys and girls who work attend a four-hour session of continuation school. Two hours are devoted to English, civics, and other

CONTINUATION SCHOOL CLASSES

Many states now require that a junior worker spend some portion of his working hours in a Continuation School. One employer has said, "Part-time school has increased the efficiency of my junior workers 100 per cent." What benefit does the pupil derive from attendance in such schools?

bookwork, and two hours to some kind of vocational training which the students may elect from among the special courses offered by the school. These usually include home economics, commercial work, and shop work.

The vocational work chosen may be along the line of the job which a boy or girl now holds or it may be preparation for a change of job. A boy who is working in a machine shop may take further instruction in machine practice and so help to advance himself. Again, he may decide from his daily experience that he does not like that kind of work well enough to make it his final source of wage-earning and livelihood, and so may choose some other kind of training in the continuation school leading eventually to a change of job. The programs of continuation schools differ so much with local needs that it is impossible to present here a full outline of continuation school possibilities, but the program given on page 165 is typical, and shows the nature of continuation school work.

ELECTRICIANS IN THE MAKING

These boys will find their trade-school training a good investment.

If you enroll in a continuation school, first examine the list of subjects offered and decide, with the advice of the principal or the placement worker of the school, what purpose you want your continuation school hours to serve and what subjects you will

A Sheet Metal Shop

Here is another trade school picture that tells its own story.

take to lead toward the attainment of your goal. It will help you, too, to keep in mind that, through the school, the state is reaching out a helping hand to you, so that you will not find your upward path too difficult. If you recognize this fact, you will not be satisfied with less than your best effort to make the most of the opportunity given you.

Courtesy of Home Makers School, Quincy, Mass.

HOME MAKING

How is waiting on tables related to home making?

DRESSMAKING

A chance to learn things all girls should know. Think of all possible careers that might develop for a girl with this training.

THE PROGRAM OF THE CONTINUATION SCHOOL

Rochester, New York, 1929

This school is organized into three vocational departments and a secondary school department as follows:

I — COMMERCIAL	II — INDUSTRIAL
Bookkeeping	Machine shop
General commercial	Printing
Office appliance work	Sheet metal
Retail selling	Electricity
Shorthand	General repair
	Cabinet making
	Drafting
	Masonry
	Commercial art

III — HOME MAKING	IV — SECONDARY SCHOOL
Clothing	High school subjects for which there is a demand.
Foods	
Trade dressmaking	

The length of the school session is four clock hours, and the school runs a double shift, thus taking care of two large groups of students each day. Students spend one two-hour period in the vocational training course chosen, and the other two hours in classroom work. The latter period, according to law, must include "instruction in American history, the rights and obligations of citizenship, industrial history, economics, the essential features of the laws relating to the industries taught, and such other subjects as will enrich the vocational intelligence of minors."

Courtesy of Antioch College

Ewing Galloway

COÖPERATION BETWEEN SCHOOL AND INDUSTRY

"Part time" schooling solves many vocational guidance problems. Antioch College has been one of the leaders in this field. Find out all you can about the work of this college and other schools and colleges like it. See also the pictures on pages 241–243.

The following letter from a continuation school pupil to his principal shows how much such training may mean to the person who really wants to improve:

Dear Mr. ——

Next week I am leaving continuation school not because of my choice but because I have reached the last age, and I thought I would like to tell you how I feel about the school. When I left junior high school I was fifteen and got a job with the —— —— Company in the bottling department. This was all right, but it had no future and I knew it. I didn't have to have any training for the job because any one could do it.

When I was in junior high school I took an academic course because I meant to go on to school, but things didn't turn out just right and I left. When I came to continuation school, Mr. —— talked to me and I didn't know what I wanted to do, but I showed him my junior high card and I was pretty good in mathematics and science. He thought I might like to take electricity, and I didn't care very much at first, so I took it.

Then I got a shock — not an electrical shock — because I found that I liked the work. One reason why I want to write this letter is to tell you how much Mr. —— helped me. He gave me much help with my instruction sheets until I got started and he always talked to me as if I could make good in this business. Well, I did, I guess, because now I have a job with the —— —— Electrical Company and they think I'll get along. My old boss was willing to let me go because Mr. —— promised him another boy, and Mr. —— shook hands with me when I was going. If I am on the road to success, I think continuation school helped me to it.

I could get an evening job now besides my regular job, setting up pins in a bowling alley. It's an all-right place but I decided not to mix it with the electrical business. Mr. ——

thinks I'd better get some more mathematics, so I guess I'll try to go to night school this winter.

I couldn't leave without saying a word telling how I liked continuation school, but you know it's hard to say things, so I'm writing instead.

Yours truly,

Morris ———

From sixteen to eighteen years of age (the age-limit differs in different states) you will probably leave continuation school. Oncoming young workers must receive the same chance that you have had. Many of the boys and girls who were classmates with you in the junior high or grammar school have now graduated from senior high school and are ready for college. How can you continue your education as they are continuing theirs?

The Trade School. — In some places there are trade schools. You may attend one of these if you are fourteen years of age or older. This type of school prepares for employment in specific trades and occupations.

Trade extension schools help the person already engaged in industry to know more about his work. Trade preparatory schools give pre-employment training. Trade school courses vary in length of time required for completion anywhere from several weeks to four years.

In order to stimulate training for useful employment, Congress, in 1917, passed the Smith-Hughes Act. This act authorized appropriations of money

A Machine Shop in a Trade School

from the National Treasury, to be used in aiding schools that furnish such training. In order to receive this help, the schools must meet certain requirements of Congress.

Below is an example of a trade school "Program of Studies."

Time Allotment on a Basis of Forty Weeks

Subject	Periods	Hours	Percentages
Shop practice — (preparation in trades and occupations) . .	1000	1000	71.43
Mathematics — related . . .	40	40	2.86
Drafting — related	80	80	5.72
Science — related	40	40	2.86
Other non-vocational preparation			17.13

Opportunities for Evening School Education. — If you live in a city, your best chance to continue your education is in the public evening schools. Many communities are now offering varied educational programs for adults with classes taught by trained teachers, and with full school equipment ready for use. The advertisement on the next page shows the list of subjects offered in the evening schools of one city. Copies were placed in store windows and on public bulletin boards.

To get the greatest value from night school it is a good idea to plan a course for yourself extending over several years. It is useless to try a little typewriting this semester and a little millinery next, or machine shop practice for one term and bookkeeping for another, unless you are taking these just as hobbies. If you decide upon a night school education for yourself, try to be regular in attendance and do not fall into the habit of pitying yourself because you are studying at night after working all day. The students of your age who are in college are attending classes during the day, and the earnest ones, at least, are studying hard at night.

Discussion Problem 10. One young worker was heard to say to another: "I'm not going to night school. I want to have a good time." Discuss this point of view. Is it possible to educate one's self through evening school and yet have a good time also? If so, how? If not, why not?

PUBLIC EVENING SCHOOL COURSES

Accounting
Advertising
Algebra
American citizenship
Architectural drawing
Arithmetic
Art craft
Auto mechanics
Biology
Blue-print reading
Blue-print sketching
Bookkeeping
Business English
Cabinet making
Calculating machine operation
Chemistry
Cobbling
Commercial arithmetic
Commercial law
Cooking
Dictaphone
Dressmaking and sewing
Electricity
Economics
Elementary subjects
English to foreigners
Filing and indexing
Foreman training
French
Furniture design
Geometry
German
Health course (Live a Little Longer)
High school diploma course (begins September 10)
Italian
Lip reading
Lithography
Machine shop practice
Mathematics
Apprentice masonry
Mechanical drawing
Millinery
Pattern making
Physics
Printing
Apprentice plumbing
Public speaking
Radio construction
Reed work and basketry
Salesmanship
Sheet metal
Shop mathematics
Shorthand
Show card writing
Sign lettering
Spanish
Speech defects
Steam fitting
Tool designing
Typewriting
Woodworking

Boston Photo News

A Night School Class in Bricklaying

Do you think these boys who are learning bricklaying are wisely spending their time outside of work hours?

An Evening School Dressmaking Class

In many places high schools are opened at night for classes like this. Women, busy with household cares during the day, can attend evening classes and learn many useful arts.

Other Opportunities for Education. — When you have completed the training which the public evening schools can give you, you may find some "extension" classes in a local college or elsewhere which you can attend. Extension classes are those provided by State Departments of Education or colleges at hours when groups other than the regular student body can attend. The State and the college thus "extend" their service. Unless you have a certificate of graduation from a high school you cannot take extension work for credit toward a degree, but you can attend classes and have all the education that comes from trained instruction and personal effort. Courses in economics, business law, and business administration are useful to young men and women in business careers. A knowledge of chemistry may be indispensable in certain occupations. Literature, art, and history courses will give you intellectual pleasure and broaden your cultural interests.

Long-Distance Learning. — Perhaps all that has been said so far in this chapter is not directly helpful to you because you live where opportunities are not offered. If this is the case, your best chance lies in the correspondence schools. Some of these are conducted as special schools and some are departments of universities. All require the payment of fees and usually the textbooks must be purchased. When you subscribe for a course, direction sheets are sent you outlining readings

and calling for written lessons. Your written reports are carefully graded and comments and corrections are written on the papers, which are then returned to you.

Correspondence school work is in some ways harder than evening school work, because the student must do so much writing without the interest that comes from being with a group, but thousands of young men and women have had the grit to profit by the opportunity which the correspondence schools offer. In small communities they have been of great service as almost the only means of educational advance possible to those not in high school. If you decide upon correspondence school work, talk the matter over with your former principal, or a teacher or librarian. Some local educator can tell you whether the correspondence school which you have chosen is a good one or just a venture meant to make money for promoters rather than to help earnest young people.

When you have decided upon your correspondence school, choose your subjects carefully. Do not take hard ones at first, because too much time will be used up in writing for explanations from your instructor. One course at a time is usually enough to take because all lessons have to be written out in detail, and this takes time. Plan to devote certain evenings to the work just as systematically as if you were attending night school. Sometimes two or three young men and women in the neighborhood become interested in taking the same course.

This situation is particularly favorable because the little group may meet and discuss the topics of the written lesson.

Discussion Problem 11. Discuss the truth of the following quotation:

> Old age may be thoughtless, old age may be planless, but youth must be in earnest; youth must conscientiously and deliberately plan.
>
> —RUSKIN

Work-School Life and the Seven Objectives. — If between the ages of fourteen and twenty-one you are getting some schooling at the same time that you are working, it will be worth while to see how the seven objectives are being met in your daily life.

Health. — The work-school program is a hard one and you will have to be quite sure that your health is maintained. All the health habits that you were taught in the elementary school concerning diet, rest, exercise, and cleanliness should find their application now. Your continuation school health activities will be of service, and your employment may be one where the health of workers is carefully guarded; still, the main responsibility for maintaining your vigor now rests with you.

A walk to or from work if possible, an evening once a week in a gymnasium, a proper selection of healthful, strength-giving foods, and eight hours of sleep will help to keep you physically fit. If your job proves to be one that is beyond your strength, then

try for another; if your night school study wears you out nervously, then lessen it or drop it; but don't start with the idea that a busy life of employment and study is necessarily an unhealthful one. On the contrary, it may be very good for your health, filling your mind with wholesome ideas and forcing you to organize your week so that you can divide your time properly for work, study, recreation, and rest.

Command of Fundamentals. — Your command of fundamentals may be increased by the various kinds of schooling suggested in the first part of this chapter. Your teachers are trained to make practice go hand in hand with instruction. If you have not acquired reasonable skill in the four fundamentals of mathematics, if you are poorly equipped for reading and writing, or if your speech is ungrammatical and carelessly uttered, you should expect your teachers to require considerable drill on these fundamentals, even though they are simple. Slovenly English, carelessness in figuring, and poor penmanship are big handicaps in the world of work.

Ethical Character. — By its very nature the work-study program develops certain sterling qualities — dependability, grit, persistence, and self-respect. When everything is easy, we hardly know the power of our own character; when life is more difficult, we find out the stuff we are made of. Perhaps you will like to learn the following quotation from Browning's *Rabbi Ben Ezra.* It shows the strong soul eager to measure itself against hard conditions.

Then, welcome each rebuff
That turns earth's smoothness rough,
Each sting that bids nor sit nor stand but go!
Be our joys three parts pain!
Strive, and hold cheap the strain;
Learn, nor account the pang; dare, never grudge the throe!

Worthy Home Membership. — All that was said about worthy home membership in the preceding chapter applies here. Cheerfulness, conversation about the day's doings, helpfulness in the household routine are as possible for the boy or girl engaged in the work-school program as for those attending high school. In addition, since you will be earning, you will probably contribute directly to the support of the home, and so may have the pleasure of feeling that you help to lighten the money burdens of your parents.

Civic Responsibility. — Probably your work will give you first-hand and first-rate training in civic responsibility. You will learn to work coöperatively with your employer and your fellow-workers for production, to exercise responsibility for the general safety, and to participate in thrift and mutual welfare plans. All this is civic training of a useful sort.

Vocational Fitness. — Your first work experiences combined with your school training will reveal to you more and more where your best opportunities for vocational success lie. These you will then want to follow up in every available way. A work and

school combination is excellent vocational guidance if you use good judgment in trying out jobs and if you stick at one long enough to know whether or not it offers good possibilities for the man or woman that you are becoming.

Worthy Use of Leisure. — You will perhaps have less leisure under the work-study program than you

Public Tennis Courts

Those who have gone to work, whether young or old, should take advantage of the opportunities near at hand for healthful exercise.

would like. It is necessary, then, to make it count for real pleasure and not for mere excitement. Your best chance of having good times will lie in choosing congenial companions with whom you can join once

A Y. M. C. A. Swimming Pool

There is no need of "all work and no play" for any one when the Y. M. C. A. and the Y. W. C. A. provide places like this for the working boy or girl.

Ewing Galloway

Municipal Golf Links at Cleveland, Ohio

Municipal links are springing up in cities everywhere. Golf is becoming everybody's game. What do the links offer that makes time spent there a worthy use of leisure?

a week in evening athletics or games, with whom you can attend occasional parties and dances without letting down your own standards of conduct, and with whom you can share hobby interests. Concerts, worth-while moving pictures, and the fun of reading interesting books are just as much open to you as to the high school group. There will be some leisure time in every week, and your problem is one of selecting amusements that give you satisfaction and lasting pleasure.

Summary. — Though the high school is the best place for boys and girls who wish to pursue their education, communities offer certain educational possibilities to those who must go to work. To find in continuation school, trade school, evening school, extension class, correspondence school, or other agencies, your chance for self-improvement is one of the challenges of our world of education. The seven great objectives which weave together in the attainment of the good life are all furthered by a work-study plan of living. The junior worker who, having found his opportunity for self-development, tries to make the most of it will open for himself new interests and increase his self-respect.

My Guidance Scrapbook — Personal Work

1. *My Guidepost*

   A line chosen from the quotation on page 177 would make a good guidepost inscription.

2. *Chapter Information*

Outline all the possible means of schooling open to a person not in high school. After each, list its particular benefits as you see them.

3. *Interesting Readings*

Bennett, *How to Live on Twenty-four Hours a Day*
Griggs, *The Use of the Margin*
Wallace, *Overcoming Handicaps*

4. *My Study of Vocations*

In what ways and from what sources can a worker in the vocations you are studying better himself? Record all possible kinds of training in your notebook.

5. *Scrapbook Suggestions*

Write an original story of a pupil who had to leave school. Be sure to show why he had to leave and what his ambition drove him to do about education. Make the story interesting and full of detail.

HOLLYWOOD BOWL

Noted for the glory of an Easter morning service or the inspiration of a symphony concert under a starlit sky. What finer educative force can be found than this great out-door Bowl? It draws thousands of people to hear, see, and feel the loveliness of music and drama.

CHAPTER VI

THE SCHOOL OF LIFE

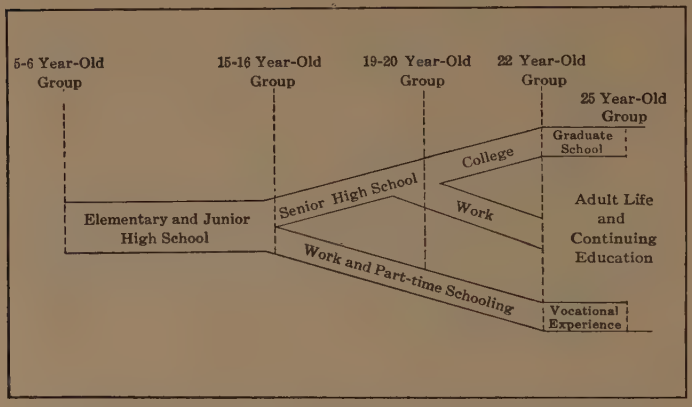
The commonplace I sing;
How cheap is health! How cheap nobility!
The open air I sing, freedom, toleration,
The common day and night — the common earth and waters,
Your farm, your work, trade, occupation,
The democratic wisdom underneath like solid ground for all.
— Walt Whitman

Chapter iv was written for guidance in planning a college career; chapter v for help in planning education between the ages of fourteen and twenty-two outside high school and college; this chapter discusses the opportunity for further education, which is the privilege of both groups, once formal schooling is completed. Education might be diagramed (see the next page) as a path forking at the close of the elementary school years and again at the close of high school, but with all paths finally reuniting in a broad onward sweep of education that is lifelong. Experience and certain definitely chosen educative forces keep us marching along the road of education.

Our Guidance Study Hour — Class Work

Education and Life. — Adulthood does not mean that education is a thing of the past, completed and

closed like a book; it is rather a time for enriched education, carefully selected and woven into the texture of life, making life more satisfying. Many people confuse education with schooling. *Schooling*, in the usual sense, means that part of education which



ALL ROADS LEAD TO THE ADULT WORLD OF CONTINUING EDUCATION

Explain this diagram to the class.

is acquired in institutions of learning. Your education is not finished when you are through school, for education is a constant development of all the talents and faculties of mind, body, and spirit. Very often the greatest opportunities to gain knowledge and skill present themselves in the world of work. Although the process may change, your education continues as long as you live — in fact, education is inseparable from life itself. So, we all attend the *School of Life*, from which there is no graduation.

Ewing Galloway

EXCHANGING IDEAS

No longer does a farmer isolate himself on his own farm — he has learned the value of the "get together" for the exchange of ideas. How does a meeting like this resemble the lecture classroom of a University?

A FARMERS' CLASS IN PRUNING AND GRAFTING

The successful farmer has learned that he must keep on gaining knowledge in order to succeed. So he is given an opportunity to receive extension service from the Agricultural Colleges.

Education in the Grown-Up World. — If you think of the life of any grown-up person, you will see that much of it is necessarily taken up with earning a living. The hours that are left of his waking time are spent in the activities of his home, his community,

A Modern Laundry

Practice makes for perfection and speed, and the machine worker becomes swifter as the operation becomes a habit. Is there a danger in acquiring speed? What must a machine worker have besides speed?

his recreational groups, such as clubs, lodges, and teams, and his church. Each of these activities makes its contribution to his continuous education.

Education through Work. — Out of their work, if it is at all congenial, men and women acquire fresh information and develop new skill. This information

and skill come from their own experience or through what they have learned from other people's experience. As an apprentice a man may learn *directly* what another person is doing; from books, lectures, magazines he may gain more technical information.

Ewing Galloway

A Home Economics Class for Home Makers

Mothers who are interested in knowing something about making the home beautiful, gather in classes like this to learn.

Whatever kind of vocation is planned, a job that appeals to the worker teaches him many new things. The farmer who is interested in a bumper crop studies soils, seeds, methods of planting and harvesting, methods of combating pests; he experiments; he reads, and consults with those who know. The factory worker who performs a simple manual operation becomes interested in doing it faster or with less

effort and thereby acquires an added skill. The salesman finds his curiosity aroused concerning the product which he sells, and takes pains to inform himself concerning the origin of the raw material, the process of manufacture, the method of distribution, the economics of the business, and the laws, if any, affecting it. The home maker studies family food planning and preparation and seeks the latest information in hygiene and psychology to apply to the bringing up of her children.

All these activities are learning — learning because of work and through work. Such learning is not stimulated by thought of marks or grades; it is the result of interest in what one is doing in the world. Learning and doing are a strong combination, one aiding and supporting the other.

Discussion Problem 12. Choose some occupation and trace what an adult worker in it might become interested in studying.

Education through Home Life. — The second sphere of activity and learning for adults is the home. Into the home to-day come educating influences from so many sources that our problem is to select those of greatest interest to us. Life in the home to-day is far richer in interest than that of a few generations ago.

Discussion Problem 13. Discuss the limited educational advantages in a home of fifty years ago.

Picture, for contrast, a typical family of to-day. They have just finished an appetizing, well-planned, and attractively served supper. Ten-year-old Jack is at the radio; father is reading the newspaper, mother a household magazine. The girls are getting ready for the movies and are chattering over their choice. Through the pleasures that these varied interests have brought, this family has learned the art of living happily together.

Let us examine some of the educative forces that have been at work and are still at work in the home.

The Newspaper. — The daily newspaper is perhaps the adult's commonest source of information. No one who can read need be ignorant of the world about him, if he makes it a point to use his newspaper as a means of education. All over the world expert news gatherers are at work to bring to the knowledge of all of us the events of Asia, Africa, Europe, the Americas, and the islands of the sea. Archæological discoveries like those of Lindbergh in South America, geographical knowledge, as Byrd and other great explorers discover it, the inventions of science, the plans of statesmen, and the doings of athletes are all made familiar to us through the press. How to dress, how to furnish our houses comfortably and artistically, how to keep well, and how to play and how to laugh are all concerns of the modern newspaper. It is the one great, unfailing, and inexpensive source of constant education. If we allow its columns to excite new curiosity in our minds and if we then follow the train of thought into library

reading (see the example on the opposite page), our mental life will be constantly enriched and our horizon expanded.

Discussion Problem 14. Bring a newspaper to school and point out the different fields of knowledge to which that particular edition contributes.

The Radio. — Even more dramatic and entertaining than the newspaper is the radio. To purchase or build a radio set is a good investment in education. With the great national hook-ups now so common, even a small set will bring in desirable returns and place a family in direct touch with all the great happenings of the world. To hear beautiful music, great speeches, or sport events merely by a turn of the dial, adds color and vividness to daily experience, and gives all listeners a sense of sharing world life and of being present at the making of history. So important a factor is the radio considered in the education of all the people that President Hoover in 1929 appointed a federal commission of sixteen members to make a six months' study of ways of improving the " fireside schoolroom."

The educative value of the radio and the newspaper will lie in the manner and extent to which these facilities are used, not merely as the means of passive, unthinking entertainment but as introductions to new knowledge and experience. The person who is interested in Byrd's explorations and who then reads Shackleton's *South !* and the record of the

GATHER EARLY U. S. HISTORY BY TREE RINGS

Scientists Learn Facts about Pueblo Villages

Washington, Dec. 2 (AP) — Out of the silence of the prehistoric past, the National Geographic Society has at length drawn the answer to the most baffling riddle in the pre-Columbian history of the United States — the dates at which scores of important Indian ruins of the Southwest were built.

Just as human fingerprints unerringly have yielded up criminals to the law, so have the annual growth rings of tree trunks given up to science the calendar record of 1,200 years of American history beginning with A.D. 700.

An exhaustive study of the trunks of living trees compared with the record of sun spots and other natural phenomena led scientific expeditions of the society to establish a definite relation between the two. It was then possible to compare the annual growth rings of the timbers of the southwestern Pueblos to living ones which were growing at the same time and fix the dates at which the prehistoric buildings were erected.

We have learned that certain Pueblo Indian settlements were enjoying their golden ages when William the Conqueror faced Harold the Saxon at the battle of Hastings. The earliest beam we recovered from New Mexico was cut A.D. 919 from a tree that was 219 years old when cut. Sun spots entered the picture because of their effects on weather and therefore on tree growth.

Douglass found in Arizona pines evidence of an 11-year sun-spot cycle for 500 years except for the interval 1650–1725. An English scientist discovered there were no sun spots between 1645 and 1715. This was considered conclusive evidence of the accuracy of tree diaries.

Follow-up readings:

Lummis, *Mesa, Cañon, and Pueblo*
Cather, *The Professor's House*

GATHERING NEWS *Ewing Galloway*

COPY DESK OF A CITY NEWSPAPER *Ewing Galloway*

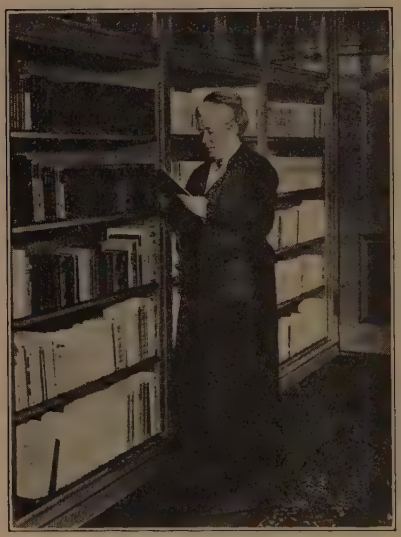
The right kind of newspaper, read in the right kind of way, can be a source of education of great value. The picture sections of such newspapers are of value to every one. Why do we remember so well the things we see? Why do you like the picture section of the paper?

explorations of Captain Scott and Amundsen, has let the newspaper and the radio lead him into a hitherto unknown world of adventure, excitement, and fresh information. People who heard Edison remake history over the radio in the celebration of " Light's Golden Jubilee " could follow through books and magazines the other achievements of Edison and the " Edison Pioneers." Such examples could be presented indefinitely. The point is that the knowledge which the great men of our time struggle against odds to attain is delivered generously to American homes on paper and through the air. If we receive it intelligently, our daily life becomes one of continuous education under the most favorable circumstances.

Discussion Problem 15. Describe a radio program that you have heard lately. Discuss its contribution to your education.

The Personal Bookshelf. — The next educative influence of the home, and one of the best ways of continuing one's education, is the personal bookshelf. Fortunately, the world's great books are not always its most expensive ones, so that almost everybody who cares to do so can enjoy the possession of a few great literary masterpieces. One's personal library will, of course, reflect one's own tastes and desires, so that too much advice concerning the home bookshelf is undesirable. If you wish your reading to help you to a fuller life of

culture and interest, it is well to fill your shelf with books on various subjects. The following book list represents the selection of a nineteen-year-old girl for the bookshelf in her own room:



A Personal Bookshelf

"One's personal library will, of course, reflect one's tastes and desires." One of the world's foremost authors, Selma Lagerlöf, is seen here in her library.

Carlyle, *The French Revolution*
Belloc, *Marie Antoinette*
Beebe, *Jungle Days*
Sandburg, *Lincoln, the Prairie Years*
De Morgan, *Alice for Short*
Peabody, *The Piper*
Gordon and King, *Verse of Our Day*

You will see that while this girl evidently has a strong interest in history, particularly the period of the French Revolution, she also enjoys biography, nature, poetry, fiction, and drama. Each person should place on his own shelf only the books that he will actually read, remembering, however, that it is wise not to confine one's self entirely to a single field, although a favorite kind of reading will naturally appear more often than other kinds. A few good books, well read, are worth their weight in gold.

Discussion Problem 16. Prepare a list of five books that you should like to own. Justify your choices.

Magazines. —The modern magazines worth while are not content with merely amusing us. Each number presents a varied program of stories, poems,

Ewing Galloway

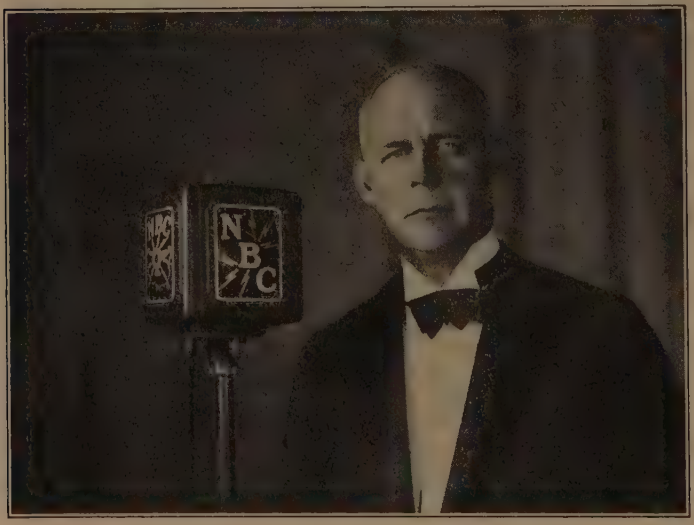
A Chance to Select

On stands like this can be found papers and magazines from every country in the world. What a wide range to choose from! Do you ever visit the magazine room of your library?

informational articles, and helpful ideas. Magazines cannot take the place of the newspaper or the radio in the home, but a subscription to a magazine that you like means an evening of interest, enjoyment, and education every week or every month.

A Typical Broadcasting Studio

How much is "radio" increasing our knowledge to-day? Why should care be taken in preparing programs for broadcasting?



A Famous Radio Speaker — Grantland Rice

What qualifications do you think are necessary to successful broadcasting? What high school studies would help you to do studio work?

Before subscribing to a magazine it is a good plan to study those on the rack of the public library to discover which one you think will bring you the most lasting pleasure and information.

Discussion Problem 17. Select a magazine to which you subscribe or think you would like to subscribe. Explain your choice to the class.

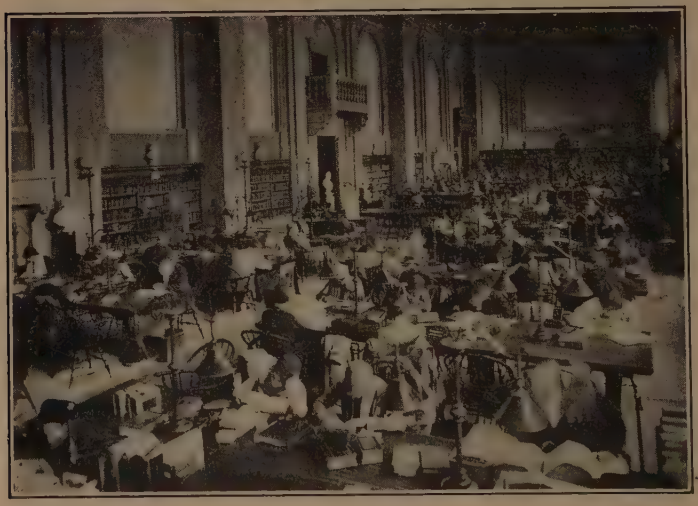
THE MUNICIPAL AUDITORIUM IN SAN ANTONIO, TEXAS

Where young and old, rich and poor, meet on common ground — a true agent of democracy and community education.

Education through Community Opportunities. — If you live in or near a city, the possibilities of continuing education are almost limitless.

Lectures. — A glance at the column of " To-day's Events " in your local paper will show the number of scientific, technical, art, and literary lectures available, many of them " open to the public " in your

community. To know what these are, in order to use them as avenues of interest and information, is merely to take advantage of benefits freely bestowed. In small rural communities opportunities for this kind of self-improvement are not so numerous, but the few lectures and addresses given are usually



A Public Library

A friend in need! If you "do not know," try this friend for information.

well-chosen, largely attended, and much talked over, so that lasting benefits result.

The Public Library. — The public library is the community's chief offering to its population for self-training. Whether you wish to study one subject very deeply, to gain acquaintance with new fields of vocation, or just to read for the general pleasure and cultural training afforded, the library

HAVE YOU VISITED A GREAT MUSEUM? — (1)

Above is a garden court in one of Boston's fine museums; below is a colonial room in the Boston Museum of Fine Arts. Man's craving to express himself in beauty belongs to all ages. The pictures on this page, and on the other side of the page, give some idea of the beauty of past and present that is treasured within the walls of a museum.

HAVE YOU VISITED A GREAT MUSEUM? — (2)

Above is a museum restoration of an Italian banquet hall; below, the Powell room in the Metropolitan Museum of Art, New York City.

will aid you in fulfilling your wish. The librarian is always helpful in making recommendations if you do not know what books to choose.

Museums. — Another source of information and interest in the community is the public museum. Museums are of three or four kinds. An art museum is a collection of pictures, sculpture, tapestries, and art-craft exhibits brought together to show the creative and imaginative genius of man at work. A historical museum gathers in all that is related to the early history of a region and the life of its people. A natural history museum exhibits the wonders of the animal, vegetable, and mineral kingdoms. An industrial museum shows the progress of invention as applied to manufacturing processes. Large cities will have all kinds of museums, and many smaller cities and towns take pride in having at least one. Every museum is a storehouse of education and wise members of the community will not fail to accept its benefits.

Discussion Problem 18. If your community has a museum, discuss the educational value of one of its exhibits that especially attracts you. If there is no museum in your locality, discuss which kind of museum you would like to see it develop first.

Clubs, Teams, and Recreation Associations. — Education is not all a matter of books. Much has resulted from our associations with other people. The young man or woman who has a hobby and who

finds or founds a club where he can pursue it with a group of interested persons does not become bored or indifferent. The person who can look forward to participation with others in an orchestra, in athletics, or in dancing has broadened his circle of acquaintances and has developed a center of interest to which

A Modern Country Club

Join something — club — orchestra — lodge — for your leisure hours. Forget yourself and your work through contacts with new faces and recreational activities.

his thoughts will turn with happy anticipation. Every wholesome experience carries possibilities of self-improvement. Training one's self in thoughtfulness, courtesy, and self-control means exercising these qualities through our contacts with other people.

Education through Church Relationships. — A well-balanced life needs not only work and play, but

One of New England's Beautiful Churches

inspiration. It is good for everybody to pause in the busy round of the week's doings to think nobler thoughts, to feel deeper reverence for the Creator, and to hear fresh calls to duty and service. Churches of all creeds and denominations are offering spiritual leadership as well as friendly comradeship to young people. A truly educated person values religion in his thought and tries to embody its principles in his conduct.

Summary. — This is a world of education. In the home, the community, the recreational group, and the church, influences have developed and are still developing which contribute to the strong body, the informed mind, and the steadfast spirit. Our family life, our work, our play, and our religious experience will all help to bring out whatever is best in us if we seriously purpose to make the most of our lives rather than merely drift through life in aimless fashion. A real attempt to fill one's day with well-balanced activity and thought does not mean a solemn face and a persistent refusal of all good times. Rather it means joy in many wholesome things to do, pleasure in association with others, and a "good time" all the time.

My Guidance Scrapbook — Personal Work

1. *My Guidepost*

   Find a guidepost sign for your scrapbook which will embody the idea that schooling may stop but education is never finished. Try to convey a great deal of meaning in a few words.

2. *Chapter Information*

The material of this chapter can be easily outlined. Test your remembrance of what you have read by making a topical outline. Compare your topics with the paragraph headings, revising where necessary, and place the outline in your scrapbook.

3. *Interesting Readings*

Barstow, *Progress of a United People*
Davis, *History of the New York Times*
DuPuy, "Blanketing the World with Radio" in *Uncle Sam's Modern Miracles*
Hall, *Home Handicraft for Boys* (crystal radio receiving sets, homemade regenerative set)
Lescarboura, *Radio for Everybody*
O'Brian, *The Story of the Sun*
Payne, *History of Journalism in the United States*

4. *My Study of Vocations*

(1) This chapter has especially good suggestions for this part of your study. First, if you have not yet made a satisfactory choice of vocations for study, what the chapter says about journalism, radio service, libraries, and other informational agencies may suggest one of these activities as an attractive vocational opportunity for you.

In the second place, it is doubtful whether you can get any more or better vocational information than you can from a careful reading of a good daily newspaper. The clipping on the next page is a good example of the thousands of articles of vocational interest which appear in newspapers. You may find it worth while to look up one of these vocations and report on it in your scrapbook.

(2) Have you been to the library yet to get whatever reading material you can? Tell, in your scrapbook, what newest information you have discovered about your vocational choice. Make a list of the books and articles

130 TRADES SHARE IN BUILDING PLANE

At least 130 trades or occupations are represented in the building of the modern air transport plane, according to a list compiled by P. G. Johnson, president of the Boeing Airplane Company. The list shows an amazing variety of artisans and engineers.

In the brazing department are gas welders, electric welders, torch brazers, press drillers, filers, gaugemakers, tube coaters, annealing furnace men, sandblasters, bench and floor mechanics, and more.

The machine shop employs toolmakers, heat treaters, turret machinists, milling machinists, and tool room clerks. In the sheet metal room are radiator assemblers, testers, hydraulic pressmen, fusilage mechanics, cowling developers, pneumatic riveters.

Wing building requires layout men, alignment men, machinists, assemblers. Plating is done by electroplaters, interior decorators, sign painters, air brush experts. Wood machining includes sticker men, shapers, band sawers, filers, model builders, pattern men, span builders, lumber sorters. And in the cable department are splicers, electricians, solderers. Boat and pontoon builders, boat and airplane trimmers, work on seaplanes.

There are motor mechanics, plane mechanics, assemblers, first and second stationary engineers, millwrights, pipefitters, plumbers, auto mechanics, truck drivers, swampers, janitors, laborers, leather cutters, hand needleworkers, wing cover stretchers, woman wing overseers, wing finishers, painters, upholsterers, wax cord makers, sewing machine operators, tape cutters, craters.

Creating projects and designs are the chief engineer, research engineer, weight engineers, stress engineers, production engineers, test engineers, patent engineers and attorney, test pilot, checkers, layout men. The planning department, purchasing and estimating department, inspection department and general executive office run the list up to about 1000 workers.

which you have read or expect to read for further information.

5. *Scrapbook Suggestions*

(1) Paste into your scrapbook an interesting newspaper article and the library readings that it suggests.

(2) Paste into your scrapbok a radio program and write a paragraph telling why you enjoyed it.

(3) Describe a museum exhibit that you think particularly educative.

(4) List magazines that you know and after the name of each write the word that best describes it, as: literary, scientific, religious, or whatever it may be.

(5) Make a speech before your class on " The American Newspaper." Let some one else make one on " The Future of Radio."

New York Central Lines

PATRICK E. CROWLEY

Underwood and Underwood

ROBERT M. HUTCHINS

These two men are outstanding examples of successful workers. One reached the science level by way of vocational experience and education outside of working hours; the other, by way of education, within the classroom.

Patrick E. Crowley, born in 1864, began his railroad career without a high school education. His first job was as a station messenger. By the time he was eighteen years of age, he had qualified for a position as station agent. His constant effort to increase his knowledge through daily experience and outside study brought him rapid promotion until, in 1924, he reached the topmost level of his vocation by receiving appointment as President of the New York Central lines.

Robert M. Hutchins, born in 1899, grew up in a school atmosphere because his father was a professor. Shortly after his entry in college he enlisted in the World War. He served fourteen months and received a decoration for bravery under fire. When the War was over, he entered Yale to complete his course, earning his own way as he did so. Later he was made Secretary of the University. While filling this position with marked success, he attended Yale Law School of which he was made the Dean in 1926. In 1929, he reached the topmost level of his profession by accepting appointment to the Presidency of the University of Chicago.

CHAPTER VII

CHECKING MY VOCATIONAL CHOICE

Still reigns the ancient order — to sow and reap and spin.
But oh, the spur of the doing! and oh, the goals to win,
Where each, from the least to the greatest, must bravely bear his part —
Make straight the furrows, or shape the laws, or dare the crowded mart.

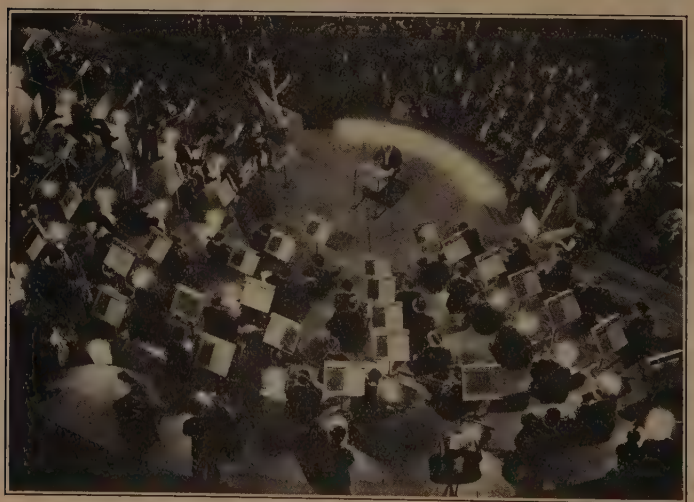
— Edna Dean Proctor

In chapter ii you were told that developing a vocational purpose means in the first place becoming acquainted with vocations, and in the second place considering personal factors that should influence choice. This chapter will tell you what some of these personal factors are.

Our Guidance Study Hour — Class Work

Ability. — We all know that there are some people who would make a success of almost anything that they might undertake. Given any job, their great natural ability would discover newer and better methods of working, larger results to be attained, and pleasanter methods of securing coöperation and helpfulness from others.

Either man described in the biographical sketch on page 208 is one of these. When you read John Muir's *Story of My Boyhood and Youth* you realize that, if



Ewing Galloway

MUSIC AS A VOCATION

The festival of high school orchestras shown above may prove an inspiration to some of the young musicians to reach the goal of high professional accomplishment pictured below.

Muir had not chosen to be a natural scientist and a writer, he would have been great as an inventor.

When this kind of all-round high-grade ability is present in a person, which vocation he chooses is less important to himself than to society. He will be successful in anything he undertakes, but society needs his leadership in great activities which further its progress. His parents and teachers should help him to choose a vocation that will make his great powers of service available for good in his generation.

A Class in Jewelry

Such classes offer splendid opportunities for vocational try-out and provide excellent training for the talented.

Somewhere in the schools of this country to-day are boys and girls with these outstanding abilities. If you feel that you are one of them, don't fail to use your powers to the utmost. Plan a long education for yourself. Take more than the required subjects and take the more difficult subjects in whatever field you plan to work. A program that would be too hard for others will be of only average difficulty for you. Stretch yourself mentally and rely upon your ability and your habit of hard work whenever

you are confronted with new problems and new situations.

Most of us, however, do not have all-round outstanding ability. We can probably work more satisfactorily in one vocational field than in another. The right choice of a field is our first problem. Once this decision is made, we must train thoroughly for the field chosen. When a person of otherwise average ability is really suited to and well prepared for a given job, he often does brilliant work in it. If you belong to this group you cannot do better than follow Carlyle's advice: "Find your work, and work at it like a Hercules." Your work may be of a professional, agricultural, industrial, commercial, or home-making character, but, having decided upon it, you can be fairly sure that you are headed for success.

There is a third group of people who think slowly and do not show much initiative but who can do directed work and routine work very well. People in this group can earn their living satisfactorily in any one of many vocations, as long as the vocation is one which depends on the carrying out of directions.

If you belong to this group try to make your school training as interesting and as broad as possible. Plan your leisure time as carefully as you would your schooling. Find hobbies; study music, art, and literature; read the great story which is history; know the wonder land of science; and make life as full as possible because your work is likely to be on the little-skill level and consequently somewhat monotonous. Above all have courage, perse-

A Class in Printing

A Shoe Repair Shop

The boys in these classes of the Memorial Junior High School, San Diego, California, are acquiring useful vocational training.

International News

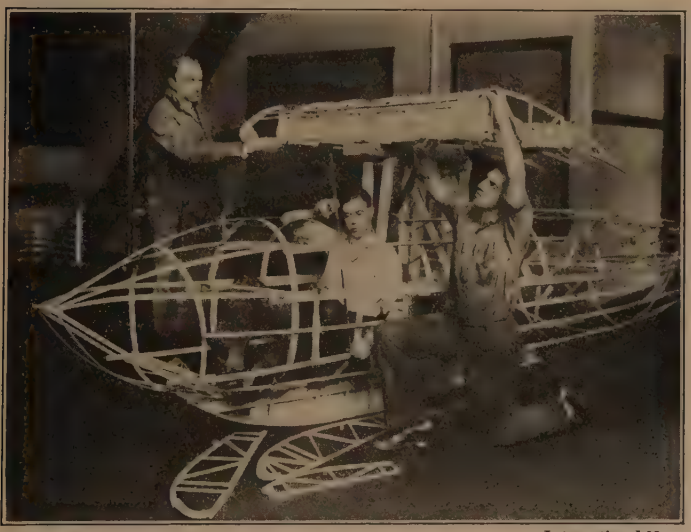
"The True Ship Is the Ship Builder" — Emerson

Ewing Galloway

Members of the American Aëro League

These boys, whose interest in aviation may lead to a wise choice of a vocation, are happy workers. How can the school of to-day help the worker of the future to find work that will mean success and happiness for him?

verance, and faith in yourself. You will be able to earn a good living, and you can make for yourself a good life. Go as far as you can through school to prepare yourself not so much for a job as for living itself.



International News

SENIOR THESIS WORK AT TUFTS COLLEGE

Can a college course help you to find your vocation? Does choice of college play an important part?

Discovering Ability through School Studies. — Ever since you were born you have been revealing abilities to those about you and to yourself. By this time you have a fairly good idea of your own powers, and so have your teachers and your parents. **If your school work reveals a persistent strength or weakness in one or more subjects, this is an indi-**

cation that points toward or away from a certain choice. The boy or girl, for example, who writes with style, has a large vocabulary, can present items clearly in written composition, and can see dramatic effects in commonplace happenings might consider journalism a possible field of work. He or she might also consider being a teacher of English. A pupil who is always poor in composition, on the other hand, would probably do well to avoid both of these careers.

Discovering Ability at Home. — Occasionally a parent will say to a teacher, "I don't see why my boy doesn't do better in school. He is very capable at home." This may be a very true statement; if it is, parent and child should consider what the fact means. Suppose you are one of these pupils. What work are you doing at home that shows what your ability is? One mother reported the following incident:

We wanted our attic sealed with insulating board to make it warmer, and my husband got his brother to do the job. Jack (her son) stayed right with his uncle while the measuring was done, estimated how many feet would be needed, figured the cost, and when the board came he helped to cut and nail it in place. All this he did just because he was interested. No one told him that he had to — and he whistled all the time he was helping.

Another mother reported as follows:

It's too bad Bert can't get along in school. He is quite bright about some things. I wish you could see how he laid out our garden. He landscaped it. He has been reading about Luther Burbank too. Then he tried making our holly-

hocks grow mixed colors by putting pollen from one to another and tying up the flowers with gauze to keep bees away. He can really tell you about all this and seems to know what he is doing.

There is no question about it that both these boys have ability and that at home they are revealing their bent for certain kinds of work. The problem is to fit the school work to the use and further development of the ability. Sympathetic counsel of teachers, pupil, and parent will bring the desired results.

Discovering Ability through Out-of-School Jobs. — Many boys and girls between the ages of twelve and sixteen have work experiences while they are studying. When a group of high-school pupils were asked to tell what work they did on Saturdays or after school to earn money, they reported the following jobs:

Selling in five-and-ten-cent store on Saturday
Answering telephone in doctor's office, 2 : 30 to 6.
Running errands for druggist
Caring for baby
Giving dancing lessons to class of little girls
Grass-cutting and weeding
Taking magazine subscriptions
Selling in chain grocery store
Typewriting for neighbor

None of these represents a full-time job nor one which would eventually mean a complete livelihood, but in each one the boy or girl concerned is discovering something about himself. Do those who are selling goods, for example, make a success of it in this

small way? Do they like it? Do they meet people naturally? Can they be persuasive? Does the girl who is giving dancing lessons show ability to teach young children? Can she give directions so that they will understand? Can she make them enjoy what they are doing?

Often your teachers do not know about your outside work experiences, but you yourself know your own successes and failures in these minor jobs and can give yourself much self-guidance through reflection upon your own experience.

In addition, the boy or girl who works to earn money for books, carfare, and lunches is revealing a certain ability to forge ahead toward a goal. It is good to know that you have this power. In this connection, the following clipping from an interview [1] published in *The Saturday Evening Post* is interesting:

> Now, there is a certain thing which we, as employers, are deeply interested in when we look over a young man's college record. I'll bet you don't know what that is, and I'll bet most of the young men don't know what it is. We want to know how these young fellows have spent their summers during the four years of college life. What, if any, were their summer activities? If they worked their way through college, what did they do? If they didn't have to work, what did they do? Some of the men who were short of cash have shown remarkable initiative and built up paying businesses. One up-and-coming youngster organized a steam laundry which paid him six thousand dollars a year. Another worked out a profitable baggage and transportation scheme. Now, these things interest an employer, not because a youth is poor and worthy — that's all hooey — but be-

[1] Elizabeth Frazer, *Wanted — Young Men.*

cause he shows initiative, drive, and an acquaintance with actual business conditions which render him valuable in our eyes.

But let us take a young man who doesn't need to work, as the popular phrase goes — it's a lie, of course, but let that pass. The boy's father is rich. Do we scrutinize his summer activities also? We certainly do, with exactly as much pains and for the same underlying reasons. Let me illustrate this point with an individual case which came under my eye. There was a certain young man whom I had interviewed in his final year at college. His scholarship record was excellent; his personality impressed me; I was strongly inclined to give him a bid to join our organization. But when I looked over his report on summer activities in reply to the firm's questionnaire, I was astonished and disgusted to find that he had not done a single thing. During the summers of the entire four years he had not lifted a finger to acquaint himself with actual current conditions in his particular field of study — I forgot to mention that he was a technical man — or in the business world at large. He had played golf, tennis, and gone around to house parties. In plain words, loafed, fooled around for four solid summers on end.

I couldn't believe it, and so I wrote to him and also to his professors, to discover if he had a reasonable excuse. He replied that his people were rich; he didn't have to work. And so he had remained comfortably perched on the family roost. Well, that finished him. He wasn't good enough for us. If a man is as static as that when he's an undergraduate kid, which is the period of all others when he should be keen as a razor, trying to tear the stuffing out of the world to see what it's made of, what will he be in ten, fifteen, or twenty years? That boy lacked creative curiosity, drive. . . .

Discussion Problem 21. Discuss any out-of-school jobs members of the class may have had. What vocational experiences could come from them?

PHOTOGRAPHY IN THE OLD DAYS

AMATEUR PHOTOGRAPHY — THE MODERN WAY

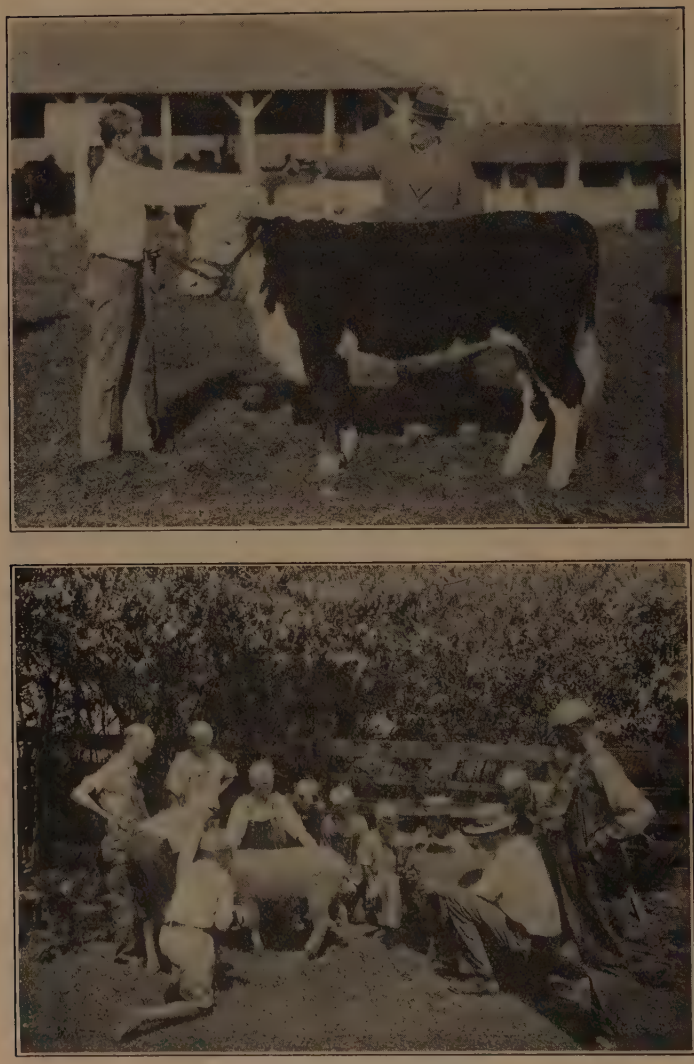
Either as a hobby or as a vocation, photography offers many interesting hours.

Special Interests. — The second personal factor in the development of a vocational purpose is a special interest. A special interest is the kind of work or pastime that you turn to with real anticipation. Perhaps you can hardly wait to get home to use your chem-craft set. Drawing or sewing or reading may be your chief interest. Special interests are revealed through your favorite out-of-school activities, through the extra-curricular activities of the school, and through favorite studies.

PRIZE TURKEYS

This girl is getting good vocational training in her favorite chore.

Special Interests Revealed through Hobbies. — We all know that some of our hobbies catch our interest for a short time only. Visiting the airport to watch aviators or running a little neighborhood newspaper may be a fad for a time. These interests may be displaced by others when the novelty has worn off, but even when this is the case, your passing interest has revealed to you something about your *bent* or the direction in which your desires are driving you.



EARLY VOCATIONAL EXPERIENCE

The lad in the upper picture has used his training to develop a prize-winner. The boys below will benefit by the interest they are showing.

The student who is interested this year in raising chickens may be all enthusiasm about raising strawberries next year, and perhaps corn or melons or a calf the following year. The immediate interest

A Poultry Project of a 4-H Club

In what field would you classify the interests represented by the last four pictures?

changes, but a bent is shown for farm activities. Another may be constantly experimenting with electric trains, electric bells, and radio hook-ups. Still another may spend his spare time drawing cartoons, copying advertisements, and stenciling designs on articles of furniture.

One girl is clever enough to make hats, articles of clothing, and carefully designed bits of needlework

for the house. On the other hand, another girl may detest needlework, but may turn with interest to nature collections and to the performing of experiments with seeds and bulbs; while still another will be interested in preparing dainty dishes and in planning and serving meals.

Discussion Problem 22. Describe your hobbies past and present to the class. Let the class consider what possible vocational choices might develop from your special interests.

Special Interests Revealed through Extra-Curricular Activities. — If you have been in a school which has had a program of clubs, you may have had a chance to develop some interests which had been unsuspected even to yourself. School clubs usually fall into the following groups:

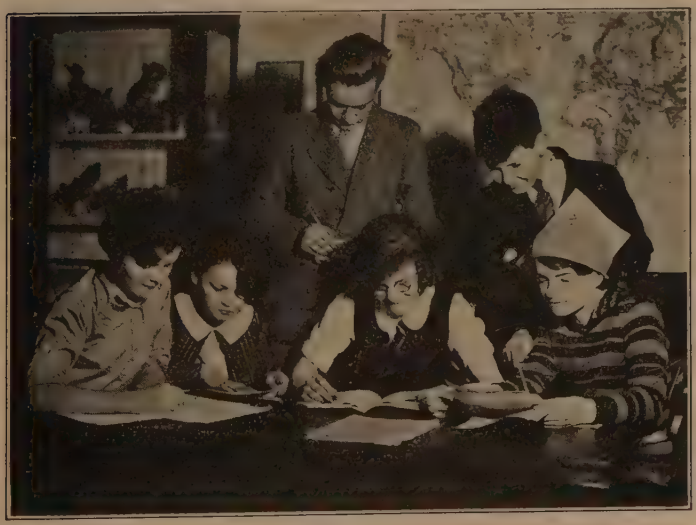
Literary clubs
Dramatic clubs
Musical clubs
Art clubs
Athletic clubs
Handwork clubs
Nature clubs
Science clubs
Social service clubs

You can see that these represent many fields of vocational effort. Your pleasure in a club may lead you at least to inquire into the vocations which would offer as work what you seem particularly to enjoy

Courtesy of the Children's Museum, Boston

A "Hobby" Class in Natural History

The sort of thing you do in your leisure time will develop new interests and may contribute to vocational fitness.



Young Editors

Here is the editorial staff of the magazine of the Children's Museum, Boston. The children assume all responsibility for the magazine, get their own advertisements and sell the copies. Its success or failure rests entirely with them.

as play. Investigation of vocational possibilities will do no harm and may lead to a desirable vocational purpose for you.

Certain other activities outside the classroom may have vocational possibilities. The school paper,

THE EDITORIAL STAFF OF A SCHOOL PAPER

In what school subjects should a pupil be most successful, if he is interested in editorial work?

for example, will give an interested boy or girl a chance at reporting. In high schools, the older student reporters on the school papers often become associated with the school page of a city daily. From this they not only earn a little money but have the opportunity of learning about the various kinds of newspaper work.

Training in public speaking has achieved new importance vocationally because of the number of people employed in radio broadcasting, and your training in public speaking for school assembly exercises may be helpful to you.

TRAINING FOR LEADERSHIP

A pupil who learns to face his fellow pupils will know how to face his fellow men when he goes out into the world.

Discussion Problem 23. Discuss the vocational interests that may be connected with the clubs and special activities of your own school.

My Guidance Scrapbook — Personal Work

1. *My Guidepost*

   Using the words *ability* and *interest*, make a slogan for your guidepost. It might be such a slogan as: Interest and ability point the way.

2. *Chapter Information*

   Make an outline of this chapter showing in general how interests and abilities are revealed.

3. *My Study of Vocations and Scrapbook Suggestions*

   This is a good place to bring your scrapbook work and your individual study of vocations together. Do this by placing in your scrapbook your own analysis of your interests and abilities, using the outline below, *Checking My Vocational Choice*, to guide you. Your analysis will be a kind of summary of your special study and will serve to tie the study to the other activities of your guidance class.

4. *Interesting Readings*

   There are no readings which will make your choice of vocation certain. The following may prove interesting as revealing in readable ways some possibilities that you may have overlooked.

   Wing, *A Vocational Reader*
   Toland, *Choosing the Right Career*
   Kenton, *The Promise of Country Life*
   Hill and Lyman, *Reading and Living*, book ii, pages 418–509 — *Finding and Doing One's Work*
   Davis and Getchell, *Stories of the Day's Work*
   Kitson, *How to Find the Right Vocation*
   Warren, *Thoughts on Business*
   Bernays, *An Outline of Careers*

Checking My Vocational Choice

1. Which of the five main fields has interested me most?
2. What training level has interested me most?

3. What vocations interest me most, now? (Make this as definite as you can, naming specific vocations, such as stenographer, pattern maker, electrical engineer, etc. It is probable that you will want to name several.)

4. My basis for the choice of three which interest me most:
   a. First choice. (Tell of books and articles read, people conferred with, lectures heard, places of work visited, school studies, actual work outside school, etc.)
   b. Second choice. (Give your sources of information, as for your first choice.)
   c. Third choice. (Give your sources of information, as for your first choice.)

5. Some outstanding points of interest to me, in the vocation given as first choice. (What is there about this vocation that has made it of unusual interest?)

6. My abilities and interests
   a. School progress
      (1) What year in school?
      (2) How old on my last birthday?
      (3) Rating at end of last school year
      (4) Average amount of time used daily in preparing all lessons, school study hours and home study combined
      (5) The opinion of my school adviser as to my capacity along school lines
   b. Special abilities or interests
      (1) Music
      (2) Writing
      (3) Art
      (4) Trading
      (5) School subjects liked most
      (6) Meeting people
      (7) Public speaking
      (8) Organizing and managing clubs

(9) Managing a business
(10) Keeping accounts of money earned, spent, and saved
(11) Repairing things around the house
(12) Experimenting

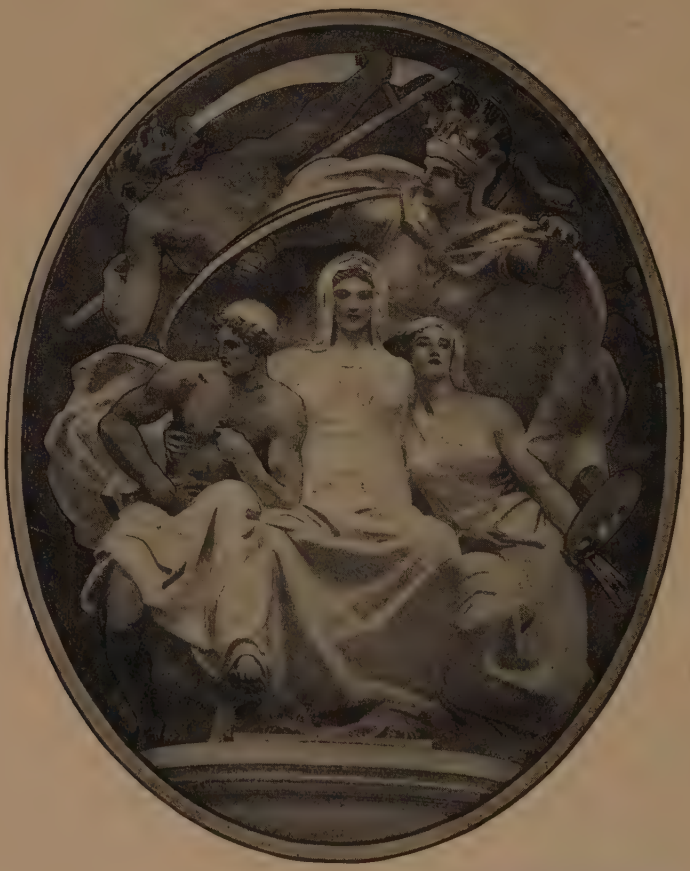
7. The field and level to which these facts point. (By this time you know that each field has much in common with the others — that business and science, for example, extend through each of the five. By now you probably can check a good trial choice.)

   Remember that the *level* is in most respects a more important decision than the *field*. If the chances are good that you can go on in school after leaving senior high school, the exact field need not be of such great concern. It does make school more vital to you, though, to have a preference in field, as well as to know the training level for which you are best fitted.)

8. The course of electives I should take. These should be in line with the field and level. Study again the diagrams on pages 27 and 28.

9. Further training I need
   a. School training
   b. Practical experience

10. Some problems I must solve
   a. In school work
   b. In my own personality
   c. In obtaining money to complete the training I need
   d. Other problems to be met



Boston Museum of Fine Arts

"Time Cannot Destroy the Arts"

This painting by John Sargent shows Minerva protecting Sculpture, Architecture, and Painting from the scythe of Time. It teaches us that love of beauty and good works will always receive Divine Protection. Whatever your final choice of vocation may be, plan to understand and preserve an interest in the fine arts.

CHAPTER VIII

YOUR FUTURE

In life's small things be resolute and great
To keep thy muscles trained. Knowest thou when Fate
Thy measure takes, or when she'll say to thee,
"I find thee worthy; do this deed for me"?

— Lowell

Having established your vocational purpose to the extent of deciding in which vocational field and upon which level you mean to work and what occupation interests you most, you can begin to lay plans and open pathways for yourself. In carrying out your plan you may meet difficulties, but if you have planned wisely, not attempting school work for which you have no ability, most of your problems can be successfully solved. The **unsolvable problems arise when,** because of some end that seems desirable, **you force yourself into school courses and occupations in which you are doomed to failure.** Let us see what some of the chief difficulties are that students meet in arranging their steps of educational advance.

Our Guidance Study Hour — Class Work

Inability to Master the Subjects Required for Your Vocational Choice. — In chapter vii, you saw that ability and interest join hands when the best

kind of vocational adjustment is made. What happens when ability is absent? Let us examine the following case:

Alan wants to be a doctor. This means that he should be unusually good in science, mathematics, Latin or a modern language because he not only must gain entrance to college but in college must spend six or seven years in studying difficult subjects. But Alan is practically failing in the subjects of his ninth-year program. He works faithfully and persistently and yet algebra and Latin are quite beyond him and he does not grasp underlying principles of science. What can he do about it? Well, the first thing for him to do is to face the problem fairly.

If Alan has really worked as hard as he can work and still is failing, he is out of his depth. He must then ask himself this question: "Is my difficulty going to be solved by time? In other words can I, by taking two terms to do one term's work, actually bring myself up to standard or not?" If the answer to this question is "Yes, I can do it, given time," then Alan must ask himself "Is it wise to continue this course at the expense of so much time? Will some one help to support me while I take all the time I need to get the training?"

Usually the answer to this question is "No." Without any failures, a medical student is usually twenty-five or twenty-six years old before he gets his diploma and after that he has to establish his practice before his livelihood is assured. If, because of inability, he does not complete his training until thirty years of age, he has still to establish his prac-

tice so that he would be middle-aged before he would be earning a comfortable living.

There remains the further question for Alan to answer: "If my ability is limited, have I any right to undertake a profession when the lives and happiness of people may depend upon what I can do?" You can see that Alan, who has the desire but not the ability to reach a given vocational goal, would be a seriously disappointed man were it not for the fact that there are so many vocational opportunities in the modern world.

A guidance counselor would surely advise Alan to give up the idea of professional service and begin to explore his other possibilities. This does not mean dropping out of school nor even staying away from all college work. He may take college studies for which he is particularly suited, perhaps not trying for a degree if he finds himself handicapped. It does mean, however, thoughtfully considering his best chances and finding the vocational training level, probably the skilled training level, where his earnest efforts will function for success. Of this he may be assured: while he may have a strong interest now in the profession of medicine, interest dies in the face of discouragement over failures.

Inability in one kind of work does not mean inability in all kinds. Alan's outstanding ability was in English. He was urged to make this his line of forward movement, investigating the field of newspaper work which his strong interest in people and his ability in written expression would seem to

make possible. It was also suggested that he look into radio broadcasting where his acquaintance with literature, his command of fluent English, and his good voice would offer qualifications. Both of these would require long schooling but with the chief emphasis upon subjects where he had a real chance of success.

The Little-Skill Level as a Goal. — When a boy or girl finds that book work and long study plans have no appeal, and that he or she would by all means rather go to work than pursue advanced studies, can it be said that the student is making a mistake? Not always. There are pupils for whom this is the best course, but they and their parents are the ones who must decide this question. Assuming that such a pupil is earnest and thoughtful, and is not acting upon a sudden whim, his or her decision that little-skill work is the best outlet is not always a mistake.

Jennie felt that all book work was just more than she could do. Her teachers were patient and she herself was persevering, but satisfactory results never came easily and often did not come at all. At sixteen, after talking with her parents and teachers, she decided to go to work. Her guidance counselor felt that Jennie's pleasant manner, neat appearance, general orderliness, and honesty warranted a recommendation for her as a sales girl in a department store. She was given a job, and entered the three-weeks training class in the store where she was employed. Here all matters pertaining to the store policy and equipment were explained to her, and her habit of listening carefully enabled her to acquire the necessary information. She was placed at the notion counter

with an experienced girl, and after the usual errors of a novice she began to grasp through daily application the principles of salesmanship. Her continuation school course was also helpful to her in this respect. Later she was moved to a novelty counter and finally was assigned to a regular station in the hosiery department.

Before Jennie left school her guidance counselor had noted her pleasure in the glee club and had urged Jennie to keep a connection with musical affairs. Jennie joined a community festival chorus as soon as she had accustomed herself to the details of her job, and thus formed other pleasant associations. Her voice was not remarkable, but it was true and sweet; she had learned to read music in school, and her part in the chorus gave her great satisfaction. Jennie is happy and self-respecting. Some years she takes a term at night school when a particular subject attracts her and her girl chums. She attends the movies, listens to the radio, reads the newspaper, and buys concert tickets now and then. She has a general feeling of satisfaction in her work life where she is giving honest service and getting a fair return. Presently she will be married and the business principles that she has learned, the understanding of how to get along with people that she has acquired, and the standards of order, courtesy, gentle voice, and neat appearance which have become her daily habit will all help to make her home a pleasant place in which to live.

Learning and Earning. — Now and then a student appears with brilliant possibility for training on the science level but without the necessary financial backing for a college career. His parents may be willing and anxious for him to continue his schooling but unable to manage it.

The first question for this student to ask himself is "Can my parents spare my time?" When contributions to the support of the home are not required,

LEARNING AND EARNING

There are many ways in which ambitious young folks can earn money in spare time to carry on their education. These two pictures are good illustrations of the ways some people have done it. The girls are tea demonstrators, helping out an advertising campaign. The picture of the boys tells its own story.

the matter becomes one of earning tuition and living expenses. This is difficult but not impossible. It does, however, demand care in the choice of a college. Preferably a college in a large city should be chosen because there are always part-time work possibilities in a city that are lacking in a college town.

Spare-Time Work in a Nursery

Frank Stone, for example, tends the furnace for four families and receives from each ten dollars per month. During the winter months he has an income of forty dollars. This does not entirely support him, but it helps. He has to get up early and to be faithful in performance of the task, but his time for the most part is left free for study. Fred Ames has a part-time job in a printing shop. This takes most of his afternoon, but he studies at night. Helen Martin learned typewriting and stenography in high school. She assists a public stenographer in transcription and also copies papers and articles for students and professors who want typing done.

Often part-time work alone will not suffice. Many

college students earn the money for their forthcoming year of study by hard work in the summer. One student took charge of a parking station for a bank. Another, who was majoring in chemistry, was able to get work in a laboratory. Still another had a position in a public library, where she took the places

GIFT SHOP AND TEA ROOM

Not everybody can make a success of such an enterprise, but some college young folks have paid their way through college just so. What qualifications are necessary to successful conduct of a business like this?

in turn of the regular workers on a vacation. Some colleges, like Antioch College, require their students to spend part of their time in college and part in practical economic occupations. Wise adjustment to life situations is the primary purpose of such a program, but many students find that this kind of

"earning while learning" is a big help in meeting college expenses.

In some years work is difficult to obtain, in other years it is easy; but the student who does not consider any work beneath him as long as it is honest will usually be able to find something to do.

SCIENTIFIC SALESMANSHIP

This Antioch College young woman has expert supervision as she earns while she learns.

Outstanding pupils always have the possibility of winning scholarships which help them along. For the many others who may need assistance there have been created, in many of the colleges, so-called student loan funds which enable students to borrow money to be repaid without interest when they complete their course and begin wage earning. In addition to these college loan funds, many local clubs and organizations have created similar loan funds where worthy students in their community may borrow under the same conditions. Borrowing to get an education is quite legitimate if one accepts the re-

sponsibility of repayment, which alone keeps the fund available for others.

When contribution must be made to the family in addition to self-support, the problem of getting a long education is more complicated. Some students manage this by working a year and studying a year. During the working year the family accumulates a little surplus and during the study year the student supports himself. This takes unusual perseverance but is in itself an education. A job gives one new ideas quite as much as study.

DIRECTING A PUPPET SHOW

This young man is training at Antioch for social service work. What part has entertainment in such work?

Sometimes several members of a family coöperate to secure high-school and perhaps college education for one another. John and Sally West were brother and sister. They went through the same college, attending alternate years. When John was working and contributing to the family, Sally was in college. Finally Sally, who was the older, graduated and entered the

employment management office of the manufacturing plant where she had been employed. Her college training, plus her understanding of workers' problems from actual experience, made her services invaluable, and with her employers' consent and assistance she is about to take an added six

A Nursery School

A field for women students at Antioch.

months of study in the New York School of Social Service. John also finished college and found a job for which his engineering studies had been directly helpful. These young people do not feel that their alternate work-study plan involved hardship. Both testify that work taught them many things which school could not have done.

Discussion Problem 25. Tell how students you know have earned their way through college. Discuss borrowing money to go to school longer.

Courage. — Perhaps the greatest asset of youth to-day is courage. If you set up for yourself a worthy goal, possible of attainment with the powers that you have, difficulties will disappear before determination. Consult your parents, your school principal, and your teachers when the obstacle arises, and forge a way for yourself in accordance with their best advice.

Our World of Education. — Our country is pouring out before all of us opportunities for education. In school or out, it is possible to keep abreast of the knowledge which our generation is attaining by study and experimentation. In 1696 occurred witchcraft trials in this country; to-day there are still people who believe in charms and incantations and who fear the "evil eye." In 1696 there were no newspapers or radios, few books, few schools, and little intercourse among people. In the face of hardship and adverse circumstances, it was all that people could do to get food, clothing, and shelter. To-day our country recognizes that these necessities must still be obtained, but it says to us all: "Rise to the modern level of thought. Education is as much a necessity as food. Cast superstitions and fears aside! Know!"

Acceptance of the gifts of knowledge from all the generations, willingness to struggle in order that we

Keystone View Company

FOUR GREAT WORKERS — HERBERT HOOVER, HENRY FORD, THOMAS EDISON, HARVEY FIRESTONE

"Lives of great men all remind us
We can make our lives sublime,
And, departing, leave behind us
Footprints on the sands of time."

— LONGFELLOW

may train our powers to the utmost, and then eagerness to make a return to our society in terms of hearty, well-trained, sympathetic service point the way to personal happiness.

'Tis not in mortals to command success,
But we'll do more, Sempronius; we'll deserve it.

— J. ADDISON

APPENDIX

OUTLINE OF OCCUPATIONAL OPPORTUNITIES

This outline is to be constantly consulted during the entire period of your individual study of a vocation. In a world where there are so many occupations to choose from, your choice, to be wisely made, must be limited to those particular occupations which you can study effectively. The list is purely suggestive — giving you a cross section of the world of work by naming typical occupations for each of the five fields.

If the list does not mention an occupation in which you are interested (for example, water transportation or occupations connected with water power), you need not reject your choice, since our general plan of study can be applied to any occupation you may choose.

Whatever occupation you choose, you must keep in mind that usually the differences between the three training levels are differences in training and experience. Very often the occupation which you have chosen for study will be found to occur on all three training levels as in the case of farming. Therefore in your study of an occupation you must look for those differences in training and experience which differentiate a worker of one training level from

the men performing similar work on the other training levels.

When considering specific qualities which characterize the worker in any one occupation, you must remember again that the qualities listed at the head of each outline are purely suggestive. You should add those qualities which are not included in the list, and which are necessary for the worker if he is to be successful.

As you use this list and the references for study keep in mind that it is not sensible for you to spend time in the study of an occupation for which your ability does not fit you. Before very long you will develop considerable skill in selecting from this list those particular occupations which it is worth your while to consider, and if your experience has already given you an idea of the vocation you want to follow, your task is simplified.

Form of the Outline

I. *School Opportunities*

Key studies in high school

There are certain school subjects which contain so much of the science of certain occupations that in testing your ability in these subjects you are really to a certain extent testing your fitness for the occupations represented. We call them *Key* studies.

Skilled and science training levels

These are represented by courses in high and other secondary schools, and by higher schools for which secondary schools prepare. Experience (the school of work) may also lead to these levels. Remember

that schools and colleges higher than high school differ in the preparation required. Consult their catalogues.

II. *Foundation Qualities and Key Qualities*

Foundation qualities are those which are essential to real success in any vocation. For convenience these may be placed in three main groups:

A. Mental and physical fitness —
Including: Alertness, accuracy, initiative, good judgment, promptness, concentration, memory, good health, and endurance.

B. Character —
Including: Ideals of honesty, morality, integrity, dependability, perseverance, loyalty, and self-control.

C. Personality —
Including: Enthusiasm, poise, neatness, orderliness, cheerfulness, courtesy, and ability to get on with people.

Foundation qualities will not be listed again, in the outline that follows.

Key qualities are those that are especially important for certain occupations. They have to do mainly with interests and abilities.

III. *Typical Occupations*

The outline of occupations given here represents as far as possible the thousands of occupations in the world's work. To find these and additional occupations in the special division of the field in which you may be interested, consult the references given.

IV. *Places of Work*

Many of the occupations given have to do with but one or two places of work. Your own investigations will make clearer to you just what these places are in your locality.

V. *References*

These are listed as *general*, for the field, and for various *divisions* of the field. Remember that your *detailed* study is to center upon the occupations you are considering as a vocation — toward which your school electives point.

GENERAL

A Syllabus in Vocational Guidance, Verl A. Teeter, Macmillan, 1928.

A Guide to the Study of Occupations, Frederick J. Allen, Harvard University Press, 1925.

Bulletin 66, Federal Board for Vocational Education, Washington, D. C., 1925.

U. S. Census, Population-Occupations Volume.

Vocational Information, W. E. Parker and D. H. Moyer, University of Michigan, 1928.

AGRICULTURAL

I. *School Opportunities in Agriculture*

A. Key Studies in High School

1. General Science, biology, and chemistry
2. Special courses in agriculture

B. Skilled Training Level

1. High school key studies and special courses
2. Vocational schools in agriculture (Corresponding to high school)
3. Correspondence courses in agricultural theory

C. Science Training Level

(Based on high school preparatory course, including key studies)

1. College and university agricultural schools and departments
2. State agricultural colleges
3. Other higher schools, such as state schools of forestry
4. Correspondence courses of college grade

II. *Key Qualities*

A. General, for the Field

1. Interest in plants and animals
2. Love of out-of-doors

B. Special, for Certain Divisions of Agriculture

1. Interest in record keeping, buying, and selling — pointing to farm ownership and management. See also business.
2. Interest in analysis of plant or animal life, plant, animal, or soil diseases, improvement of farm stock, production of new varieties or breeds — pointing to the position of state, government, or agricultural college specialist in plant or animal sciences.

III. *Typical Occupations*

A. General Farm Work

Science Training Level

Farmer — proprietor, partner, renter, share farmer.

Farm supervisor — manager, superintendent, foreman.

Skilled Training Level

Farmer — proprietor, partner, renter, share farmer.

Farm supervisor or foreman.

Little Skill Training Level

Teamster, plowman, farm hand, chore boy, helper, day laborer.

B. Single Crop or Specialty Farm Work

1. *Plant Husbandry*

Science Training Level

Rancher, plantation manager, nurseryman, seed specialist, fruit grower, market gardener, orchardist, landscape architect, tree surgeon, florist, forester.

Skilled Training Level

Farmer, foreman, or farm assistant, in above places of work.

Little-Skill Training Level

Teamster, plowman, farm hand, picker, chore boy, helper, day laborer.

2. *Animal Husbandry*

Science Training Level

Rancher, fur specialist, fancier, poultryman, apiarist, dairyman, breeder.

Skilled Training Level

Same occupations as for science training level. Much of the work in farming is done on this basis.

Little-Skill Training Level

Ranch hand, poultry or other animal attendant, teamster, chore boy, day laborer.

C. Specialists in Agriculture

Typical Occupations

Science Training Level

Specialists in soils, fertilizers, plant production, plant diseases, forestry, animal production, fisheries, animal diseases, food inspection, agricultural engineering, irrigation, farm accounting, coöperative buying and marketing, rural social worker.

Skilled and Little-Skill Training Levels

Not represented in the vocation of agricultural specialist.

IV. *Places of Work*

Fields	Greenhouses
Gardens	Dairies
Barns	Farm shops
Wood-lots	Farm offices or desks
Forests	Roads and markets

V. *References*

A. General

Opportunities for the Agriculturally Trained Man, The University of Nebraska, Lincoln, 1927 (Free).

Management of Farm Business, Bulletin 88 (Revised), Federal Board for Vocational Education, Washington, D. C.

Agriculture, Bureau of Vocational Information, 51 East 42nd St., New York City. (Pamphlet, 25¢, obtained from the Bureau.)

Vocations in Industry, Vol. I, by May Rogers Lane, International Textbook Co., Scranton, 1929.

Our World of Work, by H. L. Holbrook and A. Laura McGregor, Allyn and Bacon, 1929. See Chapters IV, V including *Interesting Readings* at end of chapters.

Guidance for Youth, by F. G. and B. C. Davis, Chapters V, VI, Ginn, 1929.

Vocations, by W. H. Proctor, Chapters IV, V, Houghton, 1929.

Occupations, by E. B. Gowin, W. A. Wheatley, and J. M. Brewer, Chapter IX, Ginn, 1923.

The Manual of Occupations, by Rutherford Platt, Part I. Putnam, 1929 edition.

What Girls Can Do, by Ruth Wanger, Chapter VIII, Holt, 1926.

B. Special, including Technical

Productive Plant Husbandry, by Kary C. Davis, Lippincott, 1927.

Soils and their Management, by C. E. Millar, Webb, 1929.

Training of a Forester, by Gifford Pinchot, Lippincott, 1917.

A Study of Farm Animals, by C. S. Plumb, Webb, 1929.

Bulletins on Agriculture. U. S. Department of Agriculture, Washington, D. C.; your own State Department of Agriculture, and your State Agricultural College. These bulletins include the work of *Specialists in Agriculture.*

BUSINESS

I. *School Opportunities in Business*

A. Key Studies in High School

English
Mathematics
Typewriting
Stenography
Bookkeeping
Office practice

B. Skilled Training Level

High school key studies
Commercial schools and courses
So-called " business colleges " of high school grade
Evening schools and correspondence courses

C. Science Training Level

(Based on high school college preparatory course, with a minimum of commercial studies taken as electives)

College and university schools and departments of accounting, finance, and business administration. Evening and correspondence courses of college grade

II. *Key Qualities*

A. General, for the Field

Interest in buying, selling, or trading
Interest in keeping records, being methodical

B. Special, for Certain Divisions of Business

Having ideas for development of business enterprises, applied to one or more of five fields. See

ownership and management. Interest particularly in statistics — facts and figures. See accountant, statistician, comptroller, banker.

III. *Typical Occupations*

A. Buying and Related Occupations

Science Training Level

Purchasing agent in industry, buyer in wholesale establishment, buyer in large retail establishment, including department, chain, and specialty stores.

Skilled Training Level

Assistants to purchasing agents in industry, to buyers in mercantile establishments; purchasing agents and buyers in smaller concerns.

Little-Skill Training Level

Not represented in buying as a vocation.

B. Selling

Science Training Level

Sales manager, assistant sales manager, foreign sales representative, wholesale salesman in lines which depend upon a technical training.

Skilled Training Level

Retail salesman or saleswoman, canvasser (usually house to house, who has studied the product sold, and the people to whom it is sold). Sales managers in some stores. Many wholesale sales positions.

Little-Skill Training Level

Retail sales and canvassing in many lines. (Apply test of less than 1 year training.)

Advertising (A kind of selling)

Science Training Level

Manager, assistant manager, advertising writer, commercial artist, solicitor.

Skilled Training Level

Manager, writer, commercial artist, solicitor, in some places of work. Photographer, sign painter.

Ewing Galloway

ADVERTISING

Do you think this form of advertising is of value? Why? What qualifications must a boy or girl have to enter the vocation of advertising? Are well-known products advertised this way, or do they become well known from this kind of advertising? Is it an expensive form of advertising?

Little-Skill Training Level

Beginner in advertising department studios, sign painter's helper, apprentice.

C. *Office*

Science Training Level

Manager, assistant manager, private secretary, certified public accountant, auditor, comptroller, statistician, treasurer.

Skilled Training Level

Chief clerk, private secretary, stenographer, typist, chief filing clerk, filing clerk, chief bookkeeper, bookkeeper, entry clerk, invoice clerk.

Little-Skill Training Level

Junior clerk, stock clerk in some positions, messenger, porter.

D. Ownership and Management

Science Training Level

Proprietor, manager, director, superintendent, in large establishments having to do with agriculture, business, industry, institutional home making and certain large professional concerns, such as an architect's office.

Skilled Training Level

Proprietor, manager in smaller establishments like a neighborhood grocery store.

Little-Skill Training Level

Not represented — except by those who cannot qualify as skilled in ownership or management.

IV. *Places of Work*

A. Buying

Offices in purchasing departments of firms buying goods

Offices and show rooms of manufacturers

Farms, forests, foreign countries, and other places where raw materials are inspected and purchased

B. Selling

Wholesale and retail counters in stores

Purchasing departments of stores, wholesale houses, factories

Farms, private and institutional homes

Mail-order offices

Advertising agencies or departments, offices, studios

Places of travel

C. Office

Administrative, factory, branch, private, professional and other offices

D. Ownership and Management

Farms, ranches, plantations

Offices and stores

Factories, mills, mines, buildings

Private houses, hotels, and other public institutions

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INDUSTRIES

I. *School Opportunities in Industry*

A. Key Studies in High School

Mathematics
Chemistry
Physics

Industrial arts
Design, drafting, shop work

B. Skilled Training Level
High school key studies
High school industrial courses
Trade and industrial schools
Correspondence courses and evening schools

C. Science Training Level
(Based on a high school college preparatory course)
Engineering schools
Science courses in colleges
Correspondence and evening engineering courses of college grade

II. *Key Qualities*

A. General, for the Field
Interest in industrial work

B. Special, for Certain Positions in Industry
Mechanical inventiveness: for creative and problem-solving positions as master mechanic, designer, mechanical engineer. Methodical precision: for systematizing positions, varying from tool or stockroom foreman to shop systematizer, production manager, and still higher positions in transportation and other public utilities.

III. *Typical Occupations*

A. Mining — Extraction of Minerals
Science Training Level
Mining engineer — ore, coal, oil and gas, rock, general — metallurgist, geologist, safety engineer (U. S. and State), underground superintendent, surveyor, (underground and surface), mill superintendent.
Skilled Training Level
Underground — mine inspector, mine foreman, fire boss, shot firer, miner, machine runner, electrician.

Surface — blacksmith, machinist, electrician, tipple boss, power plant engineer, steam shovel runner, well driller (oil, gas, salt, prospecting, etc.)

Little-Skill Training Level

Underground — cager, motorman (inside and outside), machine runner's helper, pipe man; mucker, trammer, nipper, trapper, laborer.

Surface — washery hand, ore sorter, jigman, crusherman; mill laborer, outside laborer, mill helper, chute tender.

B. Manufacturing

Most of the positions listed, particularly for the science training level, apply to all or most of the following divisions of manufacturing, which should be considered separately by those personally interested in manufacturing as a vocation.

Chemical and allied industries
Clay, glass, stone, pottery
Clothing
Food
Iron, steel, other metal industries
Lumber and furniture
Paper printing, publishing
Textiles
Tobacco
Leather

Science Training Level

Chemist, engineer — mechanical, electrical, production — designer, personnel director, superintendent.

Skilled Training Level

Foreman, machinist, electrician, millwright, master mechanic, machine adjuster or repairman, pipefitter.

Little-Skill Training Level

Machine operator, packer, wrapper, feeder, sorter, assembler, polisher, cleaner, laborer.

Carnegie Institute of Technology

LINOTYPING IN THE DEPARTMENT OF PRINTING

C. *Building*

Science Training Level

Architect, contractor, building construction engineer, electrical engineer, heating and ventilation engineer, sanitary engineer.

Skilled Training Level

Carpenter, bricklayer, plumber, electrician, sheet metal worker, steam fitter.

Little-Skill Training Level

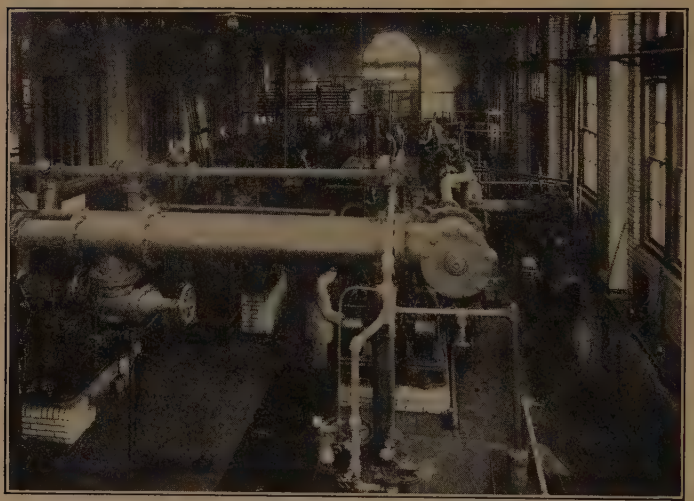
Apprentice or helper, mixer (for mason), plasterer's laborer, plumber's laborer, hod carrier, digger.

Antioch College

ELECTRICAL ENGINEERING

Carnegie Institute of Technology

IN THE MACHINE SHOP, COLLEGE OF INDUSTRIES



Carnegie Institute of Technology

MECHANICAL ENGINEERING

Carnegie Institute of Technology

AUTOMOTIVE LABORATORY

Carnegie Institute of Technology

DEPARTMENT OF ARCHITECTURE

D. Public Utilities

The positions listed apply to one or more of the following main divisions of public utilities, which should be considered separately.

Communication
Transportation
Heat, light, and power
Water supply and sewage
Roads, parks, and other public works

Science Training Level

Engineer — electrical, mechanical, aëronautical, highway, sanitary, civil, power plant — landscape architect, chemist, bacteriologist, marine navigator, naval architect.

Skilled Training Level

Chief equipment man, conduit foreman, radio mechanic, chief operator, wireless operator, locomotive engineer, pumping station engineer.

Little-Skill Training Level

Fireman, cement worker, trench digger, pole setter, oiler, assembler, cable puller, deckhand, sailor

IV. *Places of Work*

A. Mining

Coal mines
Metal mines
Quarries
Beds or pits
Wells

B. Manufacturing

Chemical and allied factories
fertilizer
paint and varnish
powder, cartridge, dynamite, fuse, fireworks
soap
grease, cleansing and polishing preparations
ink, starch, tar
Clay, glass, stone, and pottery factories
Clothing factories
Food factories
Iron, steel, and other metal mills
Lumber mills and furniture factories
Paper mills
Printing and engraving establishments
Textile mills
Tobacco factories
Leather tanneries and factories

C. Building

Buildings
Building sites

D. Public Utilities

Communication centers
Railways

Waterways
Power plants
Rivers, lakes
Roads
Parks
Irrigation dams
Public buildings
Streets, fields, mountains, forests

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Home Making

I. *School Opportunities in Home Making*

A. Key Studies in High School

Home management

Cooking

Sewing
Art
Social sciences
School activities

B. Skilled Training Level
High school key studies
High school domestic science courses
Evening schools and correspondence courses

C. Science Training Level
(Based on college preparatory course)
College and university schools and departments of sociology, child study, domestic science, institutional home making.
Evening and correspondence courses of college grade.

II. *Key Qualities*

A. General, for the Field
Interest in the well-being and happiness of other people
Orderliness
Personal neatness

B. Special, for Certain Divisions of Home Making
Love for children — family home making
Interest in management side of household science — institutional home making

III. *Typical Occupations*

1. *Family Home Making*
Science Training Level
The housewife trained for service on that level, housekeeper, interior decorator
Skilled Training Level
Housewife, servant, chef, dressmaker, gardener
Little-Skill Training Level
Housewife, laundress, servant, cook

2. *Institutional Home Making*
Science Training Level
Superintendent, assistant superintendent, manager, dietitian, housekeeper (in charge), hostess.
Skilled Training Level
Steward, chef, head waiter, hotel engineer, painter and paper hanger, laundry forewoman, butcher, boarding house keeper.
Little-Skill Training Level
Maid, laundress, seamstress, waiter, counterman, news-stand attendant, guard, ashman, dish washer, scrub-woman, bus boy, porter, bell boy.

IV. *Places of Work*

A. Family Home Making
Family homes

B. Institutional Home Making
Boarding houses
Hotels
Restaurants and tea rooms
Hospitals
Asylums
" Homes " for aged
Penitentiaries
Schools and colleges

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PROFESSIONS AND ALLIED SERVICES

I. *School Opportunities in Professions and Allied Services*

A. Key Studies in High School

(Listed under professional fields)

1. Fine arts

Freehand drawing

Design

Carnegie Institute of Technology

IN THE ART STUDIO

Music
English composition

2. Practical arts
   - Design
   - Mechanical drawing
   - Mathematics
   - Shop courses
   - Physical sciences
3. Medical work
   - Physiology
   - Biology
   - General science
   - College preparatory subjects
4. Religious vocations, teaching and other educational work
   - College preparatory subjects
   - School subjects of special interest (teaching)

5. Politics and law
   History
   Civics
   Government
   College preparatory subjects

B. Skilled Training Level

High school practical arts and industrial courses
Trade and industrial schools
Correspondence courses and evening schools

C. Science Training Level

(Based on high school courses preparing for these schools)
Schools of fine art
Schools of commercial art
Colleges preparing for medical, theological, law, and other professional schools
Engineering schools
Dental schools
Schools of pharmacy
Schools of nursing

II. *Key Qualities*

A. General, for Professions

Ability to do well in academic school studies

B. Special, for Certain Divisions of the Field, including allied services of less than science training level.

a. Creative ability applied to the beautiful in drawing, painting, music, drama. See the fine arts.

b. Creative ability applied to the practical. See engineering and other practical arts.

c. Special interest in the welfare of other people. See personal professions and public services.

III. *Typical Occupations*

A. The Arts

1. *Practical Arts*

Science Training Level

Mining engineer, metallurgist, electrical engi-

neer, chemical engineer, mechanical engineer, sanitary engineer, civil engineer, aëronautical engineer, radio engineer.

Skilled and Little-Skill Training Levels

See industry

2. *Fine Arts*

Science Training Level

Landscape painter, portrait painter, sculptor, architect, pianist, composer, author, dramatist, actor, illustrator.

Skilled Training Level (The Artisan)

Silversmith, potter, photographer, advertising designer, sign painter, printer. See also industry.

Little-Skill Training Level

Represented only by beginners, preparing for higher training levels.

B. Personal Professions and Allied Services

1. *Religious and Social Work*

Science Training Level

Pastor, priest, rabbi, social worker, director of religious education, teacher in school of religion, Y.M.C.A., Y.W.C.A., or allied worker, missionary.

Skilled Training Level

Workers or assistants in the above who have not had professional training.

Little-Skill Training Level

Not represented in religious work as a vocation.

2. *Medical and Allied Occupations*

Science Training Level

Physician and surgeon; general practitioner and specialists — ear, eye, nose and throat, nerves, brain, children's diseases, etc., public health service.

Trained nurse — including bedside, public health, school.

GRADUATES OF A CHILDREN'S HOSPITAL

These girls have reached the Science Training Level of a Profession.

Dentist — general practitioner and specialist, oral hygienist.
Pharmacist.
Bacteriologist.

Skilled Training Level

Dental mechanic, optical laboratory worker, X-ray laboratory assistant.

Little-Skill Training Level

Not represented in medical and allied occupations as a vocation.

3. *Teaching and Other Educational Work*

Science Training Level

Teacher — elementary high school, vocational and other special schools, academic subjects, special subjects, college professor.

Special worker — psychologist, counselor, home and school visitor, librarian.

Administrator — supervisor, principal, superintendent, dean, president.

Skilled and Little-Skill Training Levels

Not represented in education as a vocation.

4. *Other Personal Services of Less than Science Training Level*

Skilled Training Level

Barber, manicurist, beauty parlor specialist, masseur.

Little-Skill Training Level

Hospital orderly, valet, maid, bootblack, attendant.

C. Political Professions and Allied Services

Science Training Level

Law — general practice, and specialists as in insurance, patents, corporations, real estate, banking, taxation, crime; judge, prosecuting attorney.

Diplomacy — ambassador, envoy, special agent, attaché, consul.

Government specialist — man or woman specially trained in any one of many science training level occupations of the five fields, employed by national, state, or local governments.

Skilled Training Level

Post office employee, railway mail clerk, policeman, detective, court stenographer.

Little-Skill Training Level

Helpers, and other assistants in various national, state, and local government departments.

IV. *Places of Work*

A. Practical Arts

Outdoors

Public buildings, highways, bridges, canals, railroads

B. Fine Arts
Studios
Museums
Theaters
Outdoors

C. Religious Work
Churches
Foreign countries
Needy homes
Y.M.C.A., Y.M.H.A., Knights of Columbus
Y.W.C.A., Y.W.H.A.
Missions
Religious institutions

D. Medical Work
Hospitals
Clinics
Offices
Laboratories
Health camps
Sanatoriums

E. Teaching and Other Educational Work
Schools and colleges
Offices
Libraries
Girl and Boy Scout meeting places

F. Politics and Law
Offices
Courts
Foreign countries
State, city, and federal public buildings

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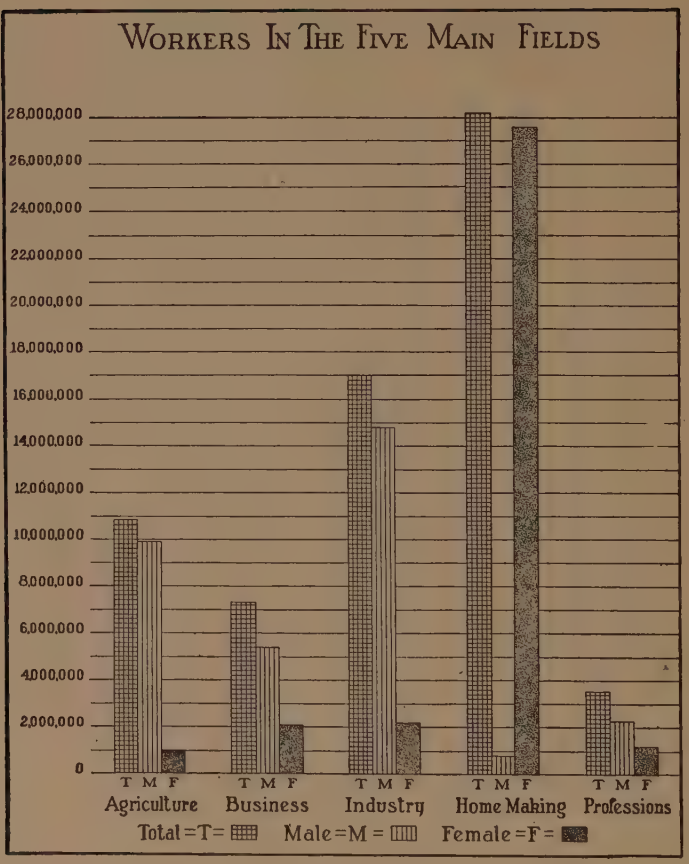

This graph is based on the occupational statistics of 1920, with certain combinations to satisfy the reduction of the nine census fields into five. Remember that the figures include the numbers of women who have been married, those engaged in domestic service, and those in institutional home making. This means, of course, that certain groups of women included in one column are duplicated in another.

HOW TO APPLY FOR A POSITION

1. THE LETTER

Often a letter of application precedes a personal interview with the employer. If you have occasion to write such a letter, the following rules will be useful.

(1) Select plain, white, business paper upon which to write your application.
(2) Take great care to have your writing neat and legible, and your grammar, spelling, and punctuation correct.
(3) Include the following information in your letter:
   (*a*) Your reason for applying for the position
   (*b*) Your qualifications
   (*c*) The names, occupations, and addresses of at least two persons qualified to judge your character and ability.

Copy and re-copy your letter until you know you have said just what you ought to say, no less and no more. Be as brief as possible. If the arrangement of your letter is business-like, if it contains no blots, erasures, or crossed-out words, you may be sure that your prospective employer will give your letter a careful reading.

2. THE PERSONAL INTERVIEW

When you apply for a position in person, you will be judged by your appearance, general bearing, and speech.

Appearance:

(1) Have your face, hands, neck, and finger nails clean.
(2) Comb your hair neatly.
(3) Clean, brush, and press your clothes.
(4) Shine your shoes.
(5) Do not wear clothes extreme in style or color.

Bearing:

(1) Try to appear at ease.
(2) Be businesslike.
(3) Be confident.
(4) Do not slouch or lounge in your chair.

Speech:

(1) Avoid slangy expressions.
(2) Speak clearly and distinctly.
(3) Keep your voice pitched low.

Your prospective employer will be favorably or unfavorably affected by your personality. You are trying to sell your services; so you must be ready to talk about yourself in a pleasing and convincing manner. Be earnest and enthusiastic. An applicant, especially a beginner, often gets a job because he shows that he wants it very much. Be courteous, and be interested in what your employer has to say. Remember that a pleasant smile will go far toward making a good impression.

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